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Accounting Measures to Meet Business Depression*

By Earl A. Saliers

Electric railway men have numerous problems pressing upon them for solution, and more should not be added unnecessarily. The increased price of all that enters into cost of service is probably permanent. Price levels are higher because money is more abundant. Those who have been unable correspondingly to increase revenues are seriously handicapped. We may feel that present evils are sufficient and that to look into the future is courting trouble. But it is always best to plan a lasting success, and doing so requires sound business foresight.

The events of the future are at best uncertain, but not altogether so. Economic events follow each other in a kind of rhythm. We know this from observation of past events. We know that periods of prosperity are followed by periods of depression; that during the past one hundred and fifty years these manifestations have seemed to obey a kind of law comparable to the swing of a pendulum; and that their recurrence has continued under changing conditions of government and finance. Many explanations have been suggested by students. W. S. Jevons, the well-known English economist, attempted to show that a certain relationship exists between these depressions and the spots on the sun, which pass through cycles of ten or eleven years, reaching the points of maximum and minimum density within each cycle. Professor H. L. Moore of Columbia University has written a book on economic

* A paper read before the American Electric Railway Accountants Association at Atlantic City, New Jersey, October, 1919.

cycles in which he attempts to show the connection between rainfall and prosperity.

At any rate, the fact remains that the business world passes through cycles marked by alternate periods of activity and depression. The theories which ascribe mathematical precision have, I think, been largely discredited by facts. As more accurate statistics are now compiled of the output of mines, factories and farms, also of foreign trade and credit, we may expect these to yield information to the future inquirer.

Most of us can recall the hard times of 1893-1896, and the disturbances following the outbreak of the European war are fresh in mind. Financial history describes similar and earlier troubles, such as the depressions which followed the panics of 1873 and 1837. Nevertheless business depressions are distinctly modern phenomena. Before the organization of business on the modern scale, there occurred extremes of scarcity and sometimes starvation in certain communities because of failure of local harvests, but these misfortunes bore none of the earmarks of business depressions. They resulted from failures in production due to natural causes. But the world is now unified—a great mart wherein occur interchanges of commodities between most distant parts. Harvest failures in one section are counterbalanced by successes elsewhere. The average productivity of the world does not vary greatly from year to year. Much of the raw material of industry is produced independent of the seasons. This is true of mineral and forest products, which alone constitute more than 60 per cent of the freight tonnage of railroads in the United States. In the organization of business, not in any known natural phenomena, do we find the best explanation of business depressions.

To consider in detail the causes to which these depressions have been attributed would be to fill a volume. Under the supervision of Carroll D. Wright, an investigation of the alleged causes of industrial depressions was carried out and the results were published in the first annual report of the commissioner of labor in 1886. So many possible causes of depressions were recorded therein that one writer has suggested that an attempt to find the true causes among such a number would be like hunting for a needle in a haystack. About one hundred were listed. Many of

these can be eliminated, however, by a process of selection and the really important possible causes of depressions will be found to number not more than twenty, of which some of the most important are inflation, want of confidence, uneven production, extravagance and unemployment. I think that effect is often confused with cause. Thus it is conceivable that unemployment as a result might be mistaken as a cause of depressions.

Fortunately, however, we accountants can leave to the economists the further discussion of the causes of depressions, for we are more interested in the fact that they do occur than in their more or less remote origins. It is for us to do what we can to diminish the evil effects of depressions. By being beforehand we may help to diminish their severity and the spread of a knowledge of accounting principles will be a potent preventive of financial disturbance. But should the possibility of future business depressions influence our policies to any great degree? If so, are we to adopt distinct measures or merely shift our general policy to a somewhat more conservative basis?

Radical plans and revolutionary suggestions I shall not offer. The accountant's duties are constructive; nevertheless he is limited by existing conditions to more or less fixed methods of procedure.

The first noticeable effect of a depression on manufacturers is a falling off in orders; on transportation companies, a decline in revenues. This means less money with which to meet fixed charges, pay wages, make replacements of wornout machinery and disburse dividends. Retrenchment becomes necessary and the form which it takes determines whether or not the enterprise has good staying power. Some obligations must be met to avoid foreclosure and upon the payment of others current operations depend. There are also certain classes of repairs which cannot long be deferred without reducing the efficiency of the service.

A large proportion of the investment in electric railways is in the form of fixed assets. The term fixed assets is a misnomer, however, except in case of land which is for most purposes really a fixed asset. Many so-called fixed assets are wasting assets, differing, however, from materials currently consumed, such as fuel, oil, etc., in that they last a relatively long time and serve for the same purpose hundreds or even thousands of times. Now this

investment in cars, track, buildings, etc., enters into the cost of service which an electric railway performs quite as truly as do wages paid to conductors, motormen and laborers or as does the money paid for coal used to generate power. But it differs from the investment in inventories of supplies and from wages, salaries and repairs, in that it is replacement, and consequently the actual disbursement of cash takes place at infrequent intervals. The length of these intervals corresponds to the useful lives of the assets. If, for example, steel rails will last thirty years, that part of the cost of service represented by the wear and tear of steel rails need give rise to cash disbursements only at the end of a thirty-year period. Much capital is so invested that replacements are necessary only after twenty or thirty years.

What I desire to emphasize is that, when funds have been tied up in constructions of permanent character, the wear and tear resulting from their use in giving service is an element in the cost of that service and should be reimbursed to the company in current charges for service. If this is not done the company will fail in the long run.

Assume the case of an electric railway corporation which constructs its plant at a cost of $10,000,000, this amount being spent to purchase rails, rolling stock, etc., which, let us further assume, have an average normal useful life of ten years. Of course in practice the replacement of the entire plant will not be made wholesale but piecemeal; yet this fact does not affect the general proposition that, on an average, in ten years the cost of the fixed assets is wholly consumed in giving service. There enters into cost of service each year about $1,000,000 of expense which is liable to be neglected in fixing a fair charge for that service, for the reason that it may be omitted for several years and the company will have enough revenue to meet current obligations nevertheless. I appreciate the practical difficulty of establishing an equitable charge, but that does not affect the principle at stake.

Carrying our illustration to its logical conclusion, let us assume that five years pass during which enough revenue is obtained each year to pay current obligations. No attention, however, is given to the fact that one-half of the average useful life of the fixed assets is past, except in so far as occasional renewals have become necessary. I contend that in failing to make a

charge sufficient to cover not only current expenses but also the exhaustion of capital invested in fixed assets, the company has made a gratuity to the public in the form of service below cost; that this policy leads toward bankruptcy; and that it should be avoided, if possible, by making adequate charges from the beginning. If ten years pass before any charge is made for use of plant, it may be difficult to explain why rates should be increased although the increase is wholly justifiable.

One thing should be noted, namely, that to get back from the public during the next ten years what was given them during the first ten and at the same time make necessary replacements, the company will be compelled to charge twice the normal cost resulting from wear and tear on its plant; for, since it neglected in each year of the first ten to charge $1,000,000 for use of plant—a charge to which it was wholly entitled—it should with propriety be permitted to charge $2,000,000 each year for the next ten. This illustration may be extreme in its neglect of details, but it proves that nobody can be prosperous on an annual deficit.

I need not be specific about what should be done with the money collected each year of the ten when an adequate charge is made. That is a matter of practical finance to be determined by circumstances. If it is neither distributed as dividends nor otherwise improperly used it acts as a financial bulwark and does more than any other feasible thing to place the company on a basis that will enable it to weather future business depressions.

Let us see how this works out. Experience teaches us that we should expect a considerable depression at least once in twenty years and also that the duration of severe depressions is not ordinarily more than two or three years. Since the organization of our present government no period of twenty consecutive years can be selected which does not present evidences of depression in some part thereof. Perhaps the same might be said of shorter periods of time, but of that I am not certain. Once in twenty years is often enough. When past experience shows what we may reasonably expect in the future we ought to govern our acts accordingly.

How much a depression will reduce revenues is problematical. It differs with different industries, and public utilities are in some respects more fortunate than manufacturing concerns because

of the very fundamental character of the service that they perform. Nevertheless, they cannot escape altogether. Where men are unemployed they do not ride daily to and from factories; moreover, freight and express shipments are diminished. Reduced revenues result; hence reduced disbursements. What, in these circumstances, is the difference in staying power of the company which has been adequately reimbursed for all costs of service and the company which has failed to secure a return of expired investment in plant?

The answer to the question rests partly with the disposition of capital thus returned, but if it is employed legitimately the company will benefit and the particular form which the funds assume is not vital. There will exist, either in distinct form or suffused through the volume of the assets, a quantity of wealth which will afford cash or the credit to secure cash when it is needed. This is true because funds destined for the replacement of fixed assets may be deviated from that purpose for a time without evil results. It may be that a portion of such funds can be permanently turned to other purposes.

Bankers are coming to depend more and more upon certified balance-sheets, and, being conservative men, they will not grant loans unless assured that balance-sheet values are real and not merely the reflection of values now extinct. We cannot hope to prevent our balance-sheets from becoming discreditable if we do not put back into property what we take out of it. All realize this so fully that I need not explain further.

Sometimes financial depressions are preceded by panics. Panics are more intimately related to the stock and money markets than are depressions, but they spring from the same general causes—over-speculation, over-expansion and over-confidence—and when such conditions are fundamental and widespread the resulting panic is pretty certain to be followed by depression. Panics aggravate the evil results of depressions by creating an artificial emphasis on the necessity of reducing credits, thus causing greater contraction than conditions warrant. However that may be, the contraction affects liquid funds and circulating capital more than it does invested capital, because income from capital permanently invested is oftentimes fixed by contract and because it cannot be immediately withdrawn to meet pressing demands elsewhere.

The income from some invested capital may increase, but it is generally diminished, and the need for funds to supplement this reduced income is above normal at a time when those who possess funds are least inclined to make loans.

Consequently we must study the amount and character of the current assets—not as abstract sums, but in the peculiar relationship which they bear to the current liabilities. In the long run the status of the current assets may be less vital than that of the fixed assets, but when sharp turns in prosperity occur, such as accompany severe panics, great embarrassment may occur when fundamental conditions are good. The fate of many enterprises is then quickly decided. The ones to be most severely tried are those which allow an insufficient margin of safety in providing for the liquidation of their current liabilities. Exactly what constitutes an adequate margin of safety depends upon various factors—chiefly the character of the business. Men familiar with the details in a given case are better fitted than I to say whether such a margin exists or not. I merely wish to emphasize as a matter of principle the necessity of having it. The electric railway business is a fundamental and stable one; hence the cost of an adequate margin of safety should not be burdensome. The financial world suffers first, and it takes time for the effects to be transmitted to all industry, during which time some opportunity is given to forestall its worst effects.

Every business has customary lines of discount and credit. These cannot be neglected without creating trouble at a time when credit is weak and cash at a premium. Therefore, care must be taken that in normal times there shall exist a margin of current assets over current liabilities big enough to absorb the force of any sudden contraction, because contraction is accompanied by a scarcity of new credits, and, as the word itself signifies, is an attempt to reduce old credits. There are always some enterprises on the ragged edge of solvency, and if under stress they cannot secure help they fail. The more such failures there are, the more liable are stronger concerns to be carried down. No enterprise can perish without leaving a series of consequences that, like circles in water produced by a falling stone, diminish in intensity as they flow outward, but affect a continually increasing number of other organizations. The failures of weak concerns are cumulative in

effect and have two possible results. Either their effects are neutralized through the absorption of their losses in the surpluses of strong companies or the strong ones are also destroyed or weakened so much that a long period of liquidation follows and then comes reconstruction on a more conservative basis.

We must provide business shock-absorbers in the form of reservations and margins. These raise a corporation above the dead level of existence. To the extent that we do this we place ourselves in a strategic position and accomplish most through the least sacrifice. Honest statesmanship sometimes prevents war at small cost. Conservative accounting procedure may conceivably prevent panics and depressions and will at least diminish their severity.

Spread of sound accounting practice has a beneficial effect cumulative in nature. Not only are those newly converted to its use directly benefitted, but others as well, because common losses are reduced. Correct accounting practice is a real factor in lasting prosperity.

The diseases of the business world resemble those which attack the living organisms. It has been said that the difference between a man and a clock is that when the clock runs down it stops, but that a man keeps going after he runs down. We are sometimes compelled to keep going when the logical thing to do is to stop, take stock of affairs, find the trouble and apply a specific remedy. But we need not shut off the power and stop the machinery if we act promptly, any more than a man needs ordinarily to enter a sanatorium if he looks diligently to his health before he loses it. A man is overworked when the vital forces are consumed faster than they are replenished. The same is true of a corporation—it cannot undergo continuous drain on its reserve forces without damage to itself.

The steps necessary to meet business depression are those which constitute conservative policy. We will all agree that those measures which can be taken as preventives are better than makeshift cures instituted at the last moment. A system of accounts has a purpose as well as a detailed procedure. Corporations are usually organized for an indefinite period of existence, and the accountant should shape his policy to meet the demands of tomorrow. He cannot do this unless he recognizes the true char-

acter of fixed assets and how they fit into and form part of invested capital. The plan of "service at cost," already adopted in several large cities, emphasizes the necessity of determining what the elements of cost are. L. R. Nash and others have shown that service is not "at cost" unless in cost there is included an adequate charge for use of fixed assets as well as current expense.

It has been and still is the belief on the part of many that all that can be accomplished by the measures which I have been considering can be equally well accomplished through a general surplus account to which there is carried each year part or all of the annual profit. Certainly there can be no objection to a surplus account, but we must keep distinctly in mind that no real surplus ever exists so long as invested capital expired is not returned through the rates. The surplus account when properly used is distinctly an excess account into which undistributed profits are collected. Ordinarily there is nothing to prevent the distribution as dividends of the entire surplus because it is in no way related to the problem of preservation of investments. Many so-called surpluses are in reality not surpluses at all, because all proper costs are not charged and the apparent profits exceed real profits by exactly the amount by which the company understates its cost of operation. A paper surplus is a delusion and tends to create a feeling of confidence not justified by the real condition of affairs. There are too many legal and business axioms covering this point to make further emphasis necessary.

What I have said is based on the assumption that revenues are adequate. That they are not always so I am fully aware. How to make them so is a topic now widely discussed in the daily press. This, however, is a matter affected by factors quite irrelevant to the present discussion. I mention it here because I am not unaware of the difficulties that usually have to be surmounted before effective things are accomplished.

Cost Accounting in the Chain Industry*

By F. W. Hilditch

Owing to the various operations employed in the manufacture of chain as distinct from jewelry chain and the variations in the processes themselves resulting from the numerous sizes and different kinds of chain manufactured, the cost accounting methods of the chain industry comprise many interesting and unique features.

The manufacture of chain demands no new principles of cost accounting, but, as hereinafter shown, some of the methods of application are the outgrowth of manufacturing conditions peculiar to this particular industry.

At the present time there are four distinct processes for the manufacture of the various grades and sizes, and the adoption of any of these by a manufacturer is governed to a great extent by the kind and size of product required and the amount of capital available for investment in the necessary equipment.

Operations

The four operations are as follows:

1. The stamped link
2. The weldless wire link
3. The electric weld
4. The fire weld

In the first process, suitable for small sizes only, flat links are stamped out of band or hoop steel, which are then bent and assembled into chain by automatic machinery. This product is plated and is then sold as coil chain, or, after the chain has been fitted with certain attachments (some of which are purchased and some fabricated by the chain manufacturer), complete articles are produced, such as halters, cow ties, kennel chains, etc.

The weldless wire link process also is used for the manufacture

* A thesis presented at the November, 1919, examinations of the American Institute of Accountants.

of the smaller sizes of chain, but through this process wire is converted into short or continuous lengths of chain in one operation, the several links of which are so formed that they will withstand a fixed tensil strain without pulling apart. Various machine methods of forming these links are used by different manufacturers and sometimes by the same manufacturer, with the result that there are several styles of this chain on the market, each having its own advantages. This product is finished in a similar manner and is sold for much the same purposes as the stamped link chain.

Electric welded chain is confined to small sizes, although covering a somewhat wider range than the chain manufactured by the first two processes. Two distinct operations (viz.: forming and welding) are required to complete the chain to the point where it can be converted into commercial articles. The material used is wire or rods up to about one-half inch in diameter and is formed on specially designed machines into various styles of links which are made singly or in continuous lengths, according to the product desired and the method to be used in welding. The welding is done by electricity on machines, some of which are practically automatic, while others are only semi-automatic, requiring more attention and greater skill on the part of the operator. This chain is frequently sold in continuous lengths with no finish, or with a bright finish obtained by "tumbling," and a considerable portion is fitted with special attachments and thus converted into articles similar to those produced from stamped link or weldless link chain.

Fire weld chain can be made in almost any size, but this process is not practicable for the very small sizes because of the excessive labor cost as compared with chain made by any of the other processes. The links are made in various styles, according to trade requirements. For the smaller sizes they are formed by cold winding rods into spirals which are cut into links, and for the larger sizes by heating short bars and shaping them into links by hand or machine. These links are then heated in coke, gas or oil fires and welded wholly by hand hammers or in part by hand and in part by power-operated hammers. This chain is usually sold in specified lengths fitted with special end links or attachments, and frequently with both.

Chain made by any of the four processes described requires a certain amount of inspection, which, in the case of electric welded chain, is a very rigid one. Much of the electric welded chain and practically all fire welded chain must also be subjected to a strength test according to standard specifications.

Chain plant cost accounting is somewhat complicated because some manufacturers use more than one of the processes heretofore described and frequently adopt varying methods of operating each process. Furthermore, in the case of welded chain the same styles and sizes, within a certain limit, may be made by either of the two welding processes, and some manufacturers fabricate or assemble many of the attachments used on the chain, necessitating forming and assembling operations, which are sometimes more complicated than those involved in the manufacture of chain.

Stock Records

For a modern chain plant properly controlled stock departments and the maintenance of accurate records of incoming and outgoing material are vitally important features of a trustworthy cost accounting system. Contracts for raw material must be made far in advance of consumption dates. The tonnage turnover is unusually large, and, while the supply of raw material must be continuously replenished by an inflow of new material, the accumulation of surplus stocks should be avoided—otherwise an excessive amount of working capital would be employed unnecessarily. Moreover, the demand for many of the chain products is seasonal, especially those for agricultural and lumber purposes, which necessitates the carrying of a very large stock of finished and partly finished material at certain periods of the year, when it would be found impracticable to take a physical inventory.

Material forms the major element of the manufacturing cost of chain, and therefore accurate costs are largely dependent upon accurate material consumption records.

Hence it is absolutely essential that continuous stock records be maintained of raw materials and manufactured products by sizes and kind which should show at all time quantities on hand, quantities consumed or shipped during a given period and quantities on order. These records must be compiled from receiving reports for all incoming goods, from requisitions for all materials

consumed, from daily production reports for all product stored and from shipping reports for all product shipped. From the summaries of these reports (the details having been posted to the numerous commodity accounts maintained in the stock ledgers) the money values are entered in the factory ledger, in which classified material accounts are maintained as controlling accounts for stock ledgers similarly classified.

To keep the stock records thoroughly revised as to quantities actually on hand, it is necessary to take frequent physical inventories of various items of stock, so that the book records may be compared with physical conditions several times within a fiscal period. Any quantity adjustments necessary in the stock records must be made in the material controlling accounts on the factory ledger at money values.

In a well-organized plant it is the custom for the storekeeper, when placing a requisition on the purchasing agent for a replenishment of stock, to take a physical inventory of the material being requisitioned, as the stock on hand at that time should have reached its minimum; consequently, the task becomes less onerous and lends itself to greater accuracy. These inventory reports are compared with the purchasing agent's record of maximum and minimum quantities to be carried of each commodity—and therefore largely prevent the purchasing of material when not really needed—and are afterwards forwarded to the stock ledger clerks for comparison with their records, which are adjusted to the physical conditions after proper inquiries have been made as to the discrepancies in quantities of any moment.

Scrap

Scrap is an important element affecting the cost of chain, and therefore adequate records of scrap produced are necessary in order that credit can be given, at scrap value, to the product in the manufacture of which the scrap was made. These records also are important for the determining of the efficiency of machines and operators and the quality of the material used.

It may here be stated that the majority of manufacturers in any line of business where scrap is produced set its value at the current market price or at an arbitrary figure which reduces the production cost of the main product accordingly. In the case of

salable scrap the writer has always advised that its value should be the current market price, less an estimated amount to provide for the labor cost of picking up and loading the scrap on cars and also for a selling cost. Unless this method is adopted, the scrap is being carried in the inventory at selling value; and, moreover, the cost of the main product is understated by the amount of expense incurred in handling and selling the scrap.

Payroll

The payroll of a chain plant presents some complicated conditions, as it covers a wide range of labor classes, including the unskilled laborer, the semi-skilled operator working on automatic machinery, the highly skilled operator performing largely hand operations, machinists, diemakers, millwrights, etc. In order to stimulate production and to provide for local labor conditions, various methods of payment for labor are used in the same plant, including the weekly wage, hour rate, day rate, piece rate, production premium plan, overtime bonus, attendance bonus, etc. It has been found more satisfactory to compute the payroll daily from time slips covering the total hours worked by each man, segregated to show the time spent upon each different product in case of producers and upon each class of expense or shop construction orders in case of non-producers. A clock system must also be used in conjunction with the time slips, in order that by ringing in and out at the beginning and end of a working shift a weekly check can be obtained on the accuracy of the hours reported on time slips, upon the basis of which bonuses are calculated. The use of a clock by each employee is essential, even though he may be working on a piece-work basis, as it furnishes a check on his attendance, which, to ensure efficient production, should be regular.

Overhead Expense

Owing to the diversity of methods used in the manufacture of chain, the different degrees of machine and hand work required to complete the various operations, the fabrication of chain attachments and the variety of commodities produced, it has been established that the best method of distributing factory overhead, for the purpose of obtaining an accurate unit cost of each commodity, is to segregate the expense to the various departments af-

fected, and thence spread it on the product upon which the department performs an operation.

An account must be kept for each operating department, to which all department expense is charged and, in addition thereto, a proportion of fixed factory charges. This expense cannot be applied to the cost of a product by any uniform method. Each department must be considered independently, and, in the end, bases for distribution will include the percentage of labor, man hour, machine hour, links and pounds plans. The methods which furnish the most constant unit and the unit connected most closely with the product at that particular stage of manufacture should be employed.

The segregation of expense to departments is facilitated by the adoption of an expense distribution report, through which non-productive labor, as determined from time slips, is credited to the departments performing the work and charged to departments benefitted thereby.

Costs

Requisitions and time slips used respectively with stock records and payrolls and the application of overhead expense, as previously mentioned, furnish the information necessary to compute the manufacturing cost of the various products fabricated.

A strict use of the individual job method has not been found practicable in certain chain manufacturing operations. The most satisfactory method is a combination of the individual job cost and the monthly operation cost methods. Under this plan the labor cost of an operation—for example, "forming"—is computed for the period of a month for each size and kind of chain formed, or in case of sizes and kinds which experience shows are uniform as to labor cost and output the computation will cover all of such a group.

For a monthly operating labor cost computed for a group of sizes it is necessary to show on the production cost summary the quantities of each size and kind of chain, grouped as to each specific operation, and to apportion the labor thereto by segregating time slips for each operation. Thus the labor cost is obtained of one operation for a number of sizes, and the material cost, by size and kind, is readily obtained from the material requisitions,

as the raw material used is governed by the size and kind of chain to be produced.

The product at this stage is reported into stores in a semi-finished condition and carried on the stock records until subsequently withdrawn against assembling job numbers to be converted into various products on which the completed cost is obtained by the individual job method. Costs computed in this manner are made a part of the financial records through the production cost summary, which is so arranged that stores and department accounts can be credited therefrom with the total value of material and partly finished stores consumed in manufacture and with the labor and overhead applicable to cost of production respectively, and stores accounts are charged with the value of semi-finished and finished products reported into stock and the cost of sales with the finished product shipped.

In the cost of fire welded chain, fuel is an important element and is applied as a direct cost to the product. To obtain a proper distribution thereof, as between different sizes, it is necessary to know the daily fuel capacity of each furnace and apportion the actual fuel consumed on that basis in conjunction with the number of hours operated.

In the case of manufactured goods, the unit prices shown on the stock records, at which they are drawn out of stock, are the previous month's costs and may differ from those of the current month when obtained. To pick up any difference, without the detail involved in a consideration of each job cost, all actual costs of a month's output are adjusted to the values at which the stocks were drawn from stores during the month. The balances on hand at the end of the month in the stock records are then adjusted to the actual costs, if the difference between the actual costs and book costs warrants the adjustment.

Work-In-Process

On account of the speed with which chain passes through the different operations it has been found extremely difficult to keep an adequate check upon work-in-process between the points at which it is reported into stores.

It has been found advisable, therefore, to take monthly physical inventories in certain departments or groups of departments in

order to check the work-in-process record on the production cost summary. This is not a difficult task, as it is necessary only in those departments covered by the monthly operation cost method, where the accumulation of work-in-process is always small. For departments working upon the job cost basis, the work-in-process is checked whenever a job is closed, which is sufficiently accurate for monthly financial statements.

Operating Statements

An important feature of chain plant cost accounting is the monthly operating statement which is compiled from the department charges in the factory ledger. It shows for each department the productive labor and the cost of operating, divided into various classes of expense. The total figures are summarized to show the total operating cost for the month divided into the same classes of expense. These figures totalled for the period of a calendar year will furnish the necessary details (except for the item "material purchases") required in the income tax returns in support of the total cost of sales.

The actual monthly overhead rate determined for each department and the rate used are also recorded on these statements, thus furnishing in condensed form, for the use of the production superintendent, a complete history of the month's operations by departments and in total.

* * * *

The methods above outlined result in obtaining manufacturing costs which, together with the selling and administrative cost, are used as a basis for selling values.

In a manufacturing concern the aggregate value of the inventory usually represents the largest item of quick assets, and it is therefore of the utmost importance that the amount should be correctly and conservatively stated. The safeguards adopted, in addition to the frequent taking of physical inventories of commodities to serve as a check upon the accuracy of quantities carried on the stock records, previously mentioned, are:

(a) A periodic scrutiny of stock records for the purpose of ascertaining the inactivities of any stocks carried;
(b) The adjustment of values of inactive stock;
(c) Provision for obsolescent material.

Any obsolete material discovered should be scrapped or sold, as the use of the money realized and the gain in storage space will usually more than offset any loss sustained by the difference between the book value and the amount realized on its sale.

Except for work-in-process, it therefore becomes necessary to take a physical inventory at the close of a fiscal period, but it is customary at that time to transcribe from the stock records the entire inventory, showing the quantity and description of each commodity, its unit price and value.

In conclusion, it may be stated that, for a corporation operating several factories, it has generally been found practical for each plant to carry on its own records the construction accounts and depreciation reserve accounts. The authorizations for construction are first approved by the management at headquarters and the various depreciation rates are also established there, to become operative at the beginning of each fiscal period. Uniformity in accounting is adopted at each plant, with the result that the trial balances, combined with that of the head office, can be readily converted into a consolidated statement of assets and liabilities at the close of any month.

The Riddle of the World*

By P. H. W. Ross

According to Pope, man is the riddle of the world. In the *Essay on Man* occur these fine lines:

> "Sole judge of truth, in endless error hurled,
> The glory, jest and riddle of the world."

As an introspective reflection this is doubtless true. It is also true of groups of men in the aggregate, of nations, as it is of individuals.

For instance, there is no right-thinking American who does not passionately desire that his country shall be the glory of the world; not one who would not shrink from the imputation or risk of America's becoming the world's jest. And yet we shall be just that, the world's joke, its jest, unless we put ourselves most seriously to the task of solving as best we can the riddle of the world.

The greatest riddle in this world is how to keep millions of its inhabitants standing on their heads all the time.

The gregarious tendencies of mankind are ineradicable. Men and women insist on getting together, in pairs, in groups, in tribes, in nations, in swarms, until the inevitable stage arrives when, as in England, for example, 45,000,000 are trying to live on an earth-base which is only large enough to support about 5,000,000 in a natural way.

I say natural advisedly, as distinguished from artificial. Only those countries whose area is sufficiently large and whose soil is sufficiently rich to produce enough food, clothing and shelter for their own people, without fictitious aid from other countries, are supporting their population in a natural way.

The rough test is that no blockade could starve out the inhabitants of such a land, provided their interior system of transportation were equal to the task of distributing food from farm to city.

The people of the western hemisphere in general, of Russia (as a whole), of Australasia and of China, are they who stand

* An address before the New York State Society of Certified Public Accountants, October 6, 1919.

upon their feet. Nearly all the rest of humanity is basically out of balance, and in many European countries they are actually standing on their heads, catching at all sorts of guys and braces in the vain endeavor to support ten persons where, from a purely natural point of view, there should be only one.

It does not follow that this is altogether wrong—quite the contrary. Life would be horribly dull if we did nothing but just stand on our feet and rejoice that we were naturally poised.

Here is the great world all around us, in all sorts of postures and contortions, and the thing for Americans to know is, first, what the general proposition is and then manfully and intelligently to tackle our share of the adjustments and re-adjustments which will continue to the end of time.

Let us not deceive ourselves on this score. Nothing "stays put" in this universe, not even the universe itself. Always there will be over-crowding, somewhere, because fluctuating humanity insists on still further crowding already congested humanity. Crowds go where crowds are.

Therefore adjustments and re-adjustments or, in other words, movements of food, clothing, ornaments and building material from place to place will always continue. These movements are the bases of foreign trade or international commerce and constitute the riddle which Americans must help to solve.

Until 1914 our position in the great world of commercial affairs was that of a young man who had not yet entered upon his estate—one who was still a minor—who had not attained his majority—who was still obeying orders from older and wiser men than himself. The reason was this: we did not participate in solving the riddle of the world. We were of use—yes, indeed—but we did not help to direct the machine of international commerce, first, because we did not know how and, second, because we were a debtor nation. Nobody outside of America owed us anything. On the contrary, we owed everybody who would lend us a dollar. And since it is nearly always he who puts up the money who is the master and who gives the orders, it is easy to see that our chief role was that of an obedient servant.

It is much easier, much simpler and requires much less knowledge to be a servant and do what you are told than to be a master and wisely direct the operations of others.

So, when the war came, with its complete overturn of pre-existing relations between the United States and Europe, it brought with it not only America's startling metamorphosis, whereby with one wave of Fortune's wand we were turned from a debtor to a creditor nation, but also the stern necessities that accompany a grown man's entrance into the maelstrom of life.

No longer could we cavort around among the nations of the world like a lusty lad, care-free and gay. No longer could we disregard conditions in other lands. On the contrary, we now have to "watch out" in very marked degree, if we don't want the goblins of ruin and disaster to "get us."

This change in the complexion of our affairs is well illustrated by an experience of my own.

In 1911 I was in Scotland and was introduced to the chairman of a certain bank. I told him that I had come from the Pacific coast, where for many years I had been engaged in the business of a country banker. He then asked me no end of questions about the street grades in one city, the sewer system of another, the conditions in such and such a school district, as to whether the county of X had exceeded its legal limit of indebtedness, and, in fact, he betrayed an intimate knowledge of local conditions in the states of Oregon and Washington that astonished me.

I asked him if he had ever been there.

He said, "No."

I then remarked that he seemed to know more about the region than I did myself, and I had lived there for over twenty years.

"Well," said he, with a funny little Scots grin, "maybe ye ha'ent lent 'em a million poon'."

"No, indeed," said I.

"Well, we ha'e," said he, "*an' we're watching oor siller.*"

So there you are! There's the difference! When you've got your eggs in a certain basket, you have to watch that basket.

Prior to 1914 we had no eggs in European baskets. On the contrary, as I have said, we were always ready to borrow and to use the last dollar of outside money that Europeans or any other nationals might choose to lend us.

In those days little did we have to concern ourselves about the street grades of Budapest or the sewer system of Paris or the school districts in Hungary or the fertility of farm lands in northern France.

But now all is changed, and just as my friend the Scots banker had to know all about municipal and public service securities in Oregon and Washington, all about our farms out there, about water rights, alkali lands, alfalfa raising and apple growing, so to exactly the same degree must we in America intimately acquaint ourselves with local conditions in European regions where our money is invested. There is no escape from this necessity if we are to save our customers for ourselves, let alone saving them for themselves.

Hear another agricultural simile, coarse, apparently inhuman, but absolutely true. When a man or a set of men is in debt to another man or group of men, the debtors are as so many cows to the creditors. The creditor, like the farmer, milks his cows, to be sure, but then, on the other hand, he feeds them more liberally than he does himself, and almost invariably shelter conditions for the cow are relatively more luxurious than for the man.

Times without number have I seen better barns than dwelling houses on farms, and almost always the beast of the field enjoys, relatively, greater luxury than the human being who supposedly owns her, but in reality is her valet, body servant, cook and masseur.

Of course no analogies are perfect, but the foregoing homely illustration is near enough for our purpose. Besides, there is no shame, no humiliation, in being the cow in this case. We Americans have been possibly "the goat," but at least the cow, for generations. I bought a run-down farm in 1890. A Scottish investment company had a mortgage on it which I foolishly assumed. The mortgage fell due. I couldn't pay, nor did the land pay, either. I begged the mortgagees to take the land and call it quits. Would they do it? Not they. The last thing they wanted to be bothered with was the land. All they wanted was their milk—in other words, their annual interest. So they farmed me and fed me with extension hay and oats and nursed me along for twelve long years that I thought would never end, until I finally paid off both principal and interest. I afterwards sold the land for about three times as much as I paid for it, so I didn't mind being the cow, after all.

Moreover, don't forget that the farmer is the servant of the cow. The cow doesn't wait on the farmer.

Thus we see, in our relations with Europe, that a complete volte-face has been accomplished and we have to do no end of things that we have never done before.

After the Napoleonic wars the nations of Europe owed England enormous sums of money, just as they now owe America.

There was only one way by which it was possible for European nations to pay those debts to England, and that was by the export of manufactured goods or raw material—largely foodstuffs.

It is the same story today. The only way by which Europeans can pay us is by sending us manufactured goods or raw material.

But there is a vast difference between creditor England of 1819 and creditor America of 1919. It is this: England cannot produce any large amount of food or raw material. She could not then; she cannot now. Therefore England in 1819 could take payment from her debtors in foodstuffs and raw materials to practically an unlimited extent.

But we, here in America, do raise an enormous amount of foodstuffs and our production of raw materials is also prodigious.

Therefore we in 1919 cannot take the same kind of pay from the indebted Europe of today that England was able to take a hundred years ago and use it up ourselves.

There is the point—use it up ourselves.

England could and did. We cannot, to the same extent, and therefore we must pass it on to other parts of the world by an intensive system of foreign trade.

Always we must remember the only kind of pay we can possibly get from Europe is something that is created by European industry. It is either that or nothing, and if you are obliged to take something with which you are already supplied, you are forced to hustle around and exchange it with some one else for something with which you are not overstocked, such as raw rubber, for instance, or sugar or coffee or hard woods or wool or hides, or anything that you can use for food, shelter, ornament, amusement or manufacture.

It is therefore not a question of whether we should like to enter into foreign trade. We must, whether we like it or not.

Hence all this talk of reverting to the policies of our fathers, of avoiding entangling alliances, of not entering into some kind of international league is sheer nonsense. The man who talks

about our standing aloof from the world's tribulations is not only callous and selfish but a downright fool.

Regarded from the basest point of view, who is there so crass as not to try to save the man who owes him ten thousand dollars? Even if one were indifferent as to the sufferer, nevertheless there would be a ten thousand dollar glow in his own flinty heart for the money he might get if the sufferer survived.

Therefore prepare yourselves for an intimate relationship with over-seas affairs, because it has got to come.

And now, very naturally, it may be asked, "How are these changes going to affect the labors of a certified public accountant?" It would seem to me that there are few professions more vitally affected by the enlargement of our country's business horizon than is that of the certified public accountant.

It is he who has to account for the relations of things. He it is who has to set up the scheme of things in the matter of valuations and offsets. It is the accountant who enables the manufacturer or distributor to see "where he is at" in his affairs, so far as his books, contracts, leases and commitments testify.

There are thousands of firms and corporations in America which are now doing something they never did before 1914. Moreover, until the last few months they have been doing it under utterly abnormal conditions, which are rapidly changing and which may never occur again. These are the houses in the export trade. It is inevitable that some of them will fail and that others will be enlarged and re-organized. In either event the certified public accountant is called in to make an exhibit upon which a receiver's dividend may be predicated or a new issue of additional stock justified.

How is he going to do it? If it were a case of a manufacturer of automobiles or of textiles or of steel, it would be comparatively simple, because most of the factors in the equation are to be found within our own borders. But suppose an accountant were faced with the job of determining, from his books and contracts, how a man stood whose assets were largely contracts for future deliveries of, say:

1,000 tons of copra to be gathered up from sundry Polynesian islands;

40,000 sacks of coffee to be imported from Central and South America;

1,000,000 feet of hard wood from Australia;
5,000 tons of potash from Germany;
10,000 horse hides from Russia.

In such a case, I venture to submit, the certified public accountant would have to be informed on matters of shipping, of freights, and particularly of exchange, to a degree that most American accountants have not yet attained. And yet this must be done, because the great change in our country's economic development is exactly what I have stated.

Heretofore our country's genius has been that of a producer or creator: we grew things on farms, we dug things out of the ground, we changed the form of things in our factories. Our people understood that range of activities and accordingly voted for such legislation as would and did help the farmer and manufacturer.

Never, until 1914, did our population pay more than the most perfunctory attention to the business of distributing things abroad —very little as to the distribution of our own products, no attention at all to the foreign distribution of the products of other lands. I doubt if it has ever entered the head of any statesman or politician in the entire history of our country that the day might come when the United States, to save itself from the loss of not millions but billions of dollars, must concern itself intimately in the business of taking things from Europe and selling them in Asia, without ever an American finger laid upon them, save in the course of their distribution.

A man in Kansas, even now, would find it hard to figure out why he should be asked to support legislation that would help us in the buying of things in Germany and selling them in Peru. He would say: "Where does America come in? Let us sell American-made things in Peru." On the face of it his logic is unanswerable, until you explain the question to him in the way that I have tried to explain it to you.

What would the average American broker think if a brisk young man were to step into his office and quote Lyons silk at so many francs a meter f.o.b. Marseille, or, worse still, at some inland point in France; or if another offered anything at fourteen shillings and threepence farthing per dozen f.o.b. Melbourne?

Nevertheless that is just the sort of puzzle that Americans

have been constantly putting up to the rest of the world—automobiles $1,200.00 f.o.b. Detroit, sewing machines $20.00 f.o.b. New York, leaving it to the buyer in Brazil or Cape Town to find out what freight and insurance and duties would be and how much in his money the things would cost.

In England accountants have to study all manner of subjects connected with foreign trade—insurance, freight and shipping. In 1881 I was in London and was about to enter that particular profession myself and I remember quite well that in addition to Pollack's *Law of Partnerships,* Walker on the *Law of Executors,* Hurrell and Hyde on *Joint Stock Companies,* I had to study Manley Hopkin's *Average and Arbitration,* because in a great transshipment seaport like London an accountant couldn't get up an approximately correct exhibit of his client's affairs unless he (the accountant) were familiar with the peculiar hazards to which his client's foreign ventures were subject.

There is an amusing story of an old New Englander which illustrates the uncertain value of a foreign trader's assets.

This particular person was always regarded as the fool of the family, the sort of fellow to whom you could sell anything, and so some "smart Alec" of that period unloaded twenty dozen copper warming-pans on Hiram Jones, as we'll call him.

This was at the period when warming pans were obsolete and had no value at all. He couldn't sell them to anyone at any price, and so he decided he'd have to send them out of the country.

Most people would have thought that Iceland or Finland or Norway would be about the proper market for warming-pans—but not Hiram.

He sent them to the west coast of Africa, of all places, where it is blazing hot all the time. Everyone thought he had gone crazy.

They changed their minds six months later when about $5,000.00 worth of ivory and palm oil came back to Hiram in payment. The natives had taken them for some sort of a fetish and carried them before their priests and kings on occasions of great ceremony and state. They fetched about $20.00 each in trade.

Had Hiram's affairs been examined by some one who had to set up the value of his business, and this item—"20 doz. warming pans en route to the Gold Coast"—appeared he would probably

have failed to see an asset of $4,800.00 lurking beneath this apparently idiotic venture.

Yet there it was!

Of course no such extreme or ludicrous instance is likely to occur in ordinary business, but, nevertheless, the fact remains that some knowledge of freights, of general conditions and especially of exchange must be possessed by any man who takes upon himself the responsibility of presenting an audit and accounting of a foreign trader's affairs.

I believe that you would greatly improve the already high value of your services to the public if your society were to send a committee of two or three of your members to London, Christiania and Hamburg and see if there are not a few ideas to be picked up in those free ports that would be of use to the certified public accountants of the state of New York.

May I repeat here an illustration I used in addressing a large meeting in Ohio last week? It is peculiarly apropos to the subject we are now considering and shows how the price of gold and consequently of all commodities is affected by the fluctuations in foreign exchange.

During the war the British mint set a fixed price of 77¾ shillings for an ounce of pure gold, and all gold coming from South African mines into England had to be sold to the bank of England at that price. When the war ceased the British government removed that requirement and gold coming into London from South Africa no longer had to be sold to the bank of England, but could be sold in open market to the highest bidder.

Consequently, when on September 13th, 1,750,000 pounds, sterling, in gold was received in London from South Africa, American bankers bought it and paid at the rate of 90⅓ shillings per ounce, while the bank of England was bidding its old price of 77¾ shillings per ounce.

"Why, on earth," one might say, "are those crazy Americans paying such an extravagant price for gold?"

It was the rate of exchange between New York and London that did it. It did not take so many American dollars in September, 1919, to buy 90 British shillings as it took to buy 77 British shillings in September, 1914.

My purpose in recounting this interesting incident is to show

how extraordinary are the ramifications of a country's foreign trade. It is not only a question of providing outlets for the sale of our products to European countries, but of providing means whereby the people of those countries can afford to buy American goods when they have to pay from $1.15 to $1.25 in their money to offset an American one-dollar bill.

Today it costs a Canadian $103.00 to pay $100.00 in American money, an Englishman from $115.00 to $125.00, a Frenchman $140.00 and a German $180.00 in his money to buy a hundred dollars' worth of our goods.

See, therefore, what a snap a Frenchman would have! He could buy from Germany at 40% discount and sell to America at 40% premium without a quiver in his apparent prices—80% gain, all in the exchanges!

Not much hope of Americans beating that sort of a handicap!

Such conditions only emphasize the necessity of our having at all times within our own control a large and efficient merchant marine whereby the products of the world may be swiftly moved and exchanged from place to place, because the smooth exchange of goods is the main factor in bringing the exchange of money to a normal basis.

This brings us to another stage of our development as a commercial state in the family of nations.

Since, in order to protect the making and growing of things in America, we cannot become altogether a free trade country and entirely dispense with a reasonably protective tariff, it follows that in order to protect the distribution of American-grown produce and American-made products, as well as the distribution and transshipment of foreign-made products and foreign-grown produce which Americans are forced to take in payment of foreign indebtedness to them, free ports must be established on the American mainland and at strategic positions in her island and other over-sea possessions.

St. Thomas, in the former Danish West Indies, was once one of the best free ports in the world. It should be again constituted a free port.

There should be a free port at each end of the Panama canal, or, better still, the entire zone should be so declared. There should be one at Hawaii, another in the Philippines, which would be our

own American Hong Kong. There should be at least one on the Atlantic coast, one on the Mexican gulf and another in Puget sound, Washington.

With these facilities for handling a transshipment trade we shall be in a better position—in fact, in the only position—properly to handle the maze of foreign-made goods that will come to us in payment of indebtedness from abroad, without seriously dislocating the general trend of our domestic business.

I should think that any member of the "home market club" who is fearful of the possibility that a free trade policy may result in the dumping of cheap European stuff on our home market would work for a free port policy that would get rid of the threatened deluge by dumping the competitive articles into a free port, thence to be absorbed by the world at large.

Another point never to be forgotten is this: a transshipment business is absolutely necessary to us to keep our merchant marine going.

The transportation of American-made exports and the import of things used in America are not enough to keep a merchant marine going. There must be, in addition to this, the transportation of goods shipped from Europe to be consumed in countries other than our own. In other words, to a considerable extent our ships must be the carriers of the goods of other countries as well as of our own goods.

All this can only be effected by friendly legislation, and you as individuals are the power that, in the final analysis, directs that legislation.

People in America vote as individuals, not as members of a group or class. That is why in times past no one has been able to deliver the church vote or the business vote or the labor vote.

Therefore it is quite necessary that your sympathies, your help and finally your vote must be secured by appeals to you, not as certified public accountants, but as individual citizens and voters of this great republic.

Mine Accounting in Relation to Federal Taxes

By Wade Kurtz

It is the purpose of this paper to discuss some of the more important phases of mine accounting principles which vitally affect the computation of profits, as well as a few interesting tax problems from the accountant's point of view, but it is essential to explain that at this time one can express only opinions in regard to the federal taxation of mines because so many of the complicated mining tax returns remain undecided.

Standardization of Mine Accounting

In attempting to assist the revenue bureau by presenting statistics relative to any mining company as a whole, the accountant is handicapped by the deficiencies and errors in accounting procedure, particularly in the smaller companies.

As the various classes of mining activities become organized for the protection of the industry at large, it is becoming imperative that some consideration be given to standardizing and unifying the accounting procedure and statistics. Few mine operators, even in the same class of mines, when speaking of operating results and costs of production, think the same thoughts and speak the same language. This condition operates against their interests in protecting their industry as a whole, because it is practically impossible to secure accurate and uniform statistics.

The local conditions existing in each mine and the variation of human nature in mine management make it practically impossible to create a detailed uniform method of accounting for each class of mines. Any attempt, therefore, of this kind must necessarily be flexible and adaptable in details; but in principles of accounting procedure and the general classification of accounts, the problem is far from being an impossible one.

I refer principally to the general classification of operating expenses, distinctions between capital and revenue expenditures and the computations of the costs per unit, in order that accurate,

detailed and comparable statements of cost of production may be readily obtained.

Capital and Revenue Expenditures

The distinction between capital and revenue expenditures varies somewhat between the construction or development period of a mine and the period after the mine has become an operating concern.

In a new company all expenditures up to the time when the gross revenue equals the operating expenditures are a part of the cost of the mine to be returned later through depletion and depreciation, but all revenue received during this development period should be credited to the cost of the mine.

In going concerns it is correct to charge to capital all expenditures for major development work, such as shafts and main haulage ways, but minor development work should be charged as current operating expense. The intention underlying the accounting practice is to capitalize such expenditures as are useful over the entire operation of the mine and to spread the expense by depletion and depreciation allowances, but when the benefits are temporary the expenses are to be reimbursed from current earnings.

Prospecting drilling is always considered as a development cost to be capitalized, but in many mines today much drilling is done directly ahead of the mining operations in order accurately to locate the ore bodies. In case of all such expenditures the drilling cost is of only temporary value and should be considered as a mining expense.

Were prospecting drilling and development permitted as a charge against current expense, there would be nothing to prevent a corporation from using all its earnings for exploration or development of ore reserves and eliminating the payment of dividends and taxes. All such expenditures are deferred charges against future earnings, to be capitalized and returned through depletion, but are not a current operating expense.

A definite line of rectitude should be pursued in distinguishing between improvements charged to capital and current operating expense, but the hazards of mining and the highly speculative nature of the industry are just reasons why the accountant should

be more flexible in his procedure by leaning towards conservatism and reimbursing the company from current earnings.

Many expenditures which in the ordinary business would be considered as of a more permanent character are an operating expense in the mining industry. After a mine has once been equipped to its normal operating capacity, there are many expenses necessary to maintain the production, and usually such expenditures are a current expense, although their life may extend over a period of years. As a mine is developed to a more distant part of the property, these expenses are necessary and would consist of such items as mules, motors, mine cars and tracking.

After a definite line of classification between capital and revenue is once established, it should be consistently followed and not changed from time to time in order to meet certain conditions.

Depreciation and Depletion

The two vital subjects of depreciation and depletion are based upon the premise that capital invested in plant, lease and development is not a permanent asset but a preliminary expenditure necessary to mine the ore reserves and that this invested value must be recovered out of the proceeds of the ore sold. It is always wise in a mining venture to secure the return of investment as quickly as possible, owing to the many uncertainties surrounding the business.

Depreciation and depletion are just as true and legitimate expenses of operation as money actually spent for labor, material and miscellaneous expense, and any statement which does not give due consideration to them is incorrect to that extent.

In mine accounting these two expenses are very closely related, with the result that there is considerable confusion as to where the line of demarcation is. The items to be considered under each classification are as follows:

Depletion: cost of fee land—cost of leases—sinking shafts —prospecting—all development work

Depreciation: buildings—machinery—equipment

Depreciation and depletion expenses and reserves are accounting devices used for the purpose of leveling the expenses of a company by amortizing the capital assets and allocating to each

accounting period its just proportion of these expenses even though they are estimates. They cover the exhaustion and dissipation of values which have a much broader meaning than the mere consumption of materialistic values due to wear and tear.

The two expenses should be computed separately, as the life of a mine seldom, if ever, corresponds to the life of the plant, and this variation affects the computation of depreciation. In a long-life mine the plant values may be consumed before the exhaustion of the mineral deposits, which would require a rate of depreciation sufficient to return the plant investment during the years of its deterioration due to wear and tear. In short-life mines, however, the dissipation of plant values has nothing to do with wear and tear, but is the result of the exhaustion of the ore deposits, because when the mine is worked out the plant has little value. In such mines a rate of depreciation must be used which will reimburse the company for its plant investment during the few years of the life of the mine. It must be noted, therefore, that no general rate for depreciation can be established, but it is an individual question to solve for each mine.

Rates of Depreciation and Depletion

There are two methods of ascertaining the rates for both depreciation and depletion—the life basis and the tonnage basis.

Whenever possible the tonnage basis for computing both depreciation and depletion is preferable, because by this method the amount charged for each as an expense rises and falls in accordance with the production of the mine. During years of small production, when profits are likely to be small, the expenses are reduced in proportion, and during years of large production the amount of depreciation charged against operations increases accordingly. This consideration is important from a tax point of view.

When using the tonnage basis an estimate of the total tonnage to be recovered is made and this tonnage is divided into the two classes of values to be amortized, which establishes the rates per ton. These rates are multiplied by the number of tons produced to ascertain the amount of both depreciation and depletion expense. If further extensions of the ore body are discovered, the number of estimated tons can be increased accordingly and used

to establish new rates per ton. These estimates of tonnage to be recovered should be made at least once a year. The tonnage basis for depletion is the preferable one to use, although in certain isolated mines, where tonnage estimates are difficult to obtain, the life basis may be used.

Either the tonnage or life basis may be used in computing the depreciation rate, as both are recognized by the regulations of the internal revenue bureau; but whichever basis is adopted, it must be consistently followed. On the life basis, should a mine be operating on a five-year lease, the plant values must be returned over the life of the lease, or at the rate of 20% per annum less salvage. In deciding the method to be used, the practical business point of view should prevail over any theoretical accounting preference.

There is one pitfall to be watched in ascertaining the depreciation charge. If capital improvements are made during operations, all such expenditures should be amortized at a rate which will recover these improvements during the remaining life of the mine. Otherwise provision will not have been made for the entire investment and the statements will record fictitious profits.

The above is the accountant's point of view, but many concerns deem it important during years of their peak profits to appropriate a proportion of their earnings toward amortizing their capital assets, while in lean years the amount charged is considerably reduced. This procedure may be very good from a business viewpoint, as it tends to steady payment of dividends, but it is not correct accounting and leads to erroneous statements of earnings.

Capitalization

One of the most difficult problems of mine accounting is to set up a just and equitable capitalization. Especially is this true since the complicated problems of mine taxation are so closely related to the invested capital. It is generally recognized that it is unfair to place a mining company on the same basis as a less hazardous business where the speculative factors are largely eliminated. In considering the capitalization of a mine, it must be understood that there is a distinction between capital assets and invested capital. In accounting nomenclature the capital assets are frequently referred to as the "capital sum." The capital sum

of a mine refers to the value of the plant, lease and development. Under provisions of the federal tax laws it may even include appreciation up to March 1, 1913, at which date one is permitted to set a fair value upon his capital assets. Under the 1918 law it may also include the value of a new discovery. Invested capital, however, is more limited in its scope and includes the value contributed by the stockholders either by capital stock contributions or earned surplus. In revaluing the assets at March 1, 1913, the increased valuation is included as invested capital, providing the book value at that date was lower than the real value owing to erroneous accounting methods; but, if the increased valuation is due merely to appreciation, the increment is applied to the capital sum for depletion purposes only and is not permissible as invested capital. The value set up on the books for a new discovery is for depletion purposes only and cannot be included as invested capital until the discovery value has been realized in cash or its equivalent.

This distinction between the capital sum or the total value of the capital assets and the invested capital or the part of the total capital belonging to the stockholders is frequently a source of annoyance to business men in their tax problems.

In mine accounting a peculiar situation arises when one attempts to compute the profit on a particular mine, as the corporation and tax laws permit certain adjustments of the actual profit derived from mining operations. When the capitalization of a mine is kept strictly upon a cost basis and the speculative element of valuation is not considered, the accounting problem is simple, as all net income after the actual cash investment has been returned, or provision has been made for its return, is the actual profit realized from the mine.

The accounting effect of the corporation laws is to reduce the profit of the corporation by the extent of the increment in mine value taken up in its capitalization. The federal tax laws permit a further reduction of taxable profits by allowing deductions from gross income for discovery values.

In dealing with the tax problems of a mining company, it must always be kept in mind that the aim is to compute profits after giving due consideration to invested capital and the special relief granted to mining companies by law.

Capitalization When Plant and Development Cost Establishes Lease Value

An interesting problem of taxation occurs when a corporation is organized and payment is made for the capital stock on the basis of a fifty-fifty interest, one party putting into the corporation his lease against the mill and development of another. The question arises as to what is the capitalization of such a company for tax purposes. When incorporating by this procedure there is a definite standard of value in the actual cost of the mill and development work which equals the value of the lease, and the capitalization therefore for tax purposes would be twice the cost of the mill and development. This total value of mill, lease and development is subject to depreciation and depletion and can be used for invested capital.

Nominal Capital

The excess profit tax laws found many companies with valuable mines and a merely nominal capital. In many such concerns the leases or mines were acquired by individuals who prospected and discovered the ore bodies and later turned over the leases to a corporation for capital stock which they at that time understood did not in any way represent the value of the leases. When the tax law of 1917 was passed they found themselves with large earnings and a ridiculously small capital stock. In companies such as this I would advise increasing the book value of the capital assets and invested capital to the actual value at the date of incorporation, subject to the approval of the revenue bureau.

Tax on Mining Property Exchanged for Capital Stock

In all mining companies which take into consideration the increment in value of a lease or fee when incorporating, the question naturally arises as to whether or not this appreciation in value is taxable to the stockholders of the company at the date of incorporation. A recent treasury decision, No. 2924, indicates that the difference between the original cost of the property, or its value at March 1, 1913, and the fair market value of the capital stock for which it is exchanged is taxable as profit to the stockholders. This question is so vital to the mining industry that an

effort should be made by the mining interests properly to present to the revenue bureau the effect of taxing mine incorporators for this speculative and unrealized profit.

Borrowed Funds to Pay for Leases

The question of organizing a mining company in the following way is frequently considered.

A valuable lease is owned by an individual and he wishes to incorporate for, say, $1,000,000.00. He is anxious to have the incorporation proceedings handled in a manner that will substantiate the capitalization before the revenue bureau and conceives the idea of making it a cash transaction as follows: he goes to his bank and borrows $1,000,000.00 to purchase the capital stock of the corporation; after the corporation receives the $1,000,000.00, it proceeds to pay the stockholder $1,000,000.00 for the lease, and the individual then pays back the loan. Will such a capitalization stand with the revenue bureau?

This procedure may be legal and possibly allowed by the internal revenue bureau, but there is another very vital factor to consider before going to the trouble of incorporating by such a method. If the deal is a completed cash transaction to the corporation, it is only consistent to rule it a completed cash transaction to the individual. As he has retained no cash in the transaction, the tax on this realized profit to the individual would be fatal.

Value at March 1, 1913

One of the tax problems of considerable importance for mines is the setting up of a value for March 1, 1913. This provision was made to establish an equitable starting point when the income tax became constitutional, because it was recognized that accounting methods were often crude and that records failed accurately to reflect the real capital of a company. This provision gave mining and other companies an opportunity to adjust their records.

It is sometimes difficult to persuade mining men that the mere par value of the capital stock issued has nothing to do with the actual invested capital. Value is the thing that establishes invested capital in mines. If par value of capital stock were allowed as a basis for invested capital, why capitalize for merely a million? Why not make it a hundred million and pay little or no tax? This

lack of understanding of the value back of capital stock has led many mining companies astray in their tax returns.

When an investigation of the condition of a mine at March 1, 1913, reveals the fact that the books do not reflect true market values at that date, an adjustment should be made to correct the books accordingly.

New Discoveries

When new discoveries of ore deposits are made the value of the company's capital stock is enhanced accordingly, as it increases the number of tons on which profits are to be made and spreads the period of amortizing the invested capital. This feature of mine accounting was brought into prominence in the federal tax law of 1918 by granting permission to mining companies to set up on their books for depletion purposes only the value of ore discoveries irrespective of the cost. This provision means that the increment in value due to the discovery—that is, the difference between the appraised value and the cost of discovery—is to be returned tax free to the discoverer, as is also the cost of discovery. Discoveries of extensions to known ore reserves are not to be construed as new discoveries, but merely increase the number of tons. A new discovery is the finding of an entirely new and previously unknown ore deposit and increases both the number of tons of ore deposits and the value of the ore body, providing it is of value materially greater than the cost of discovery. You cannot predicate the existence of a mine on two or three drill holes, as a commercially valuable ore body must be established.

The value of the new discovery should be recorded on the books as a part of the capital assets and a corresponding credit should be made to a new discovery reserve. As new discoveries are mined and their value realized in cash, the amount so realized may be considered as an earned surplus and be included as invested capital, provided it has not been disbursed in dividends. This means that the new discovery reserve account should be charged to the extent of the discovery value taken out of the mine and placed in the surplus account.

The date of the discovery is an important factor in determining its valuation. A discovery usually may be considered as made

when the development has indicated ore reserve sufficient to warrant putting up a mill and sinking a shaft.

Therefore, in proving the value of a new discovery it is exceedingly important to have drill records, assays and other data enough to substantiate as large a value as possible. Companies which fail to attend to these details will find themselves in a difficult position when attempting to prove their discovery values at Washington.

Again, it must be recognized that one cannot take the present value and present tonnage and work backward in establishing discovery value, but must consider first the known factors at the discovery date. In establishing a discovery value for a company which has been in operation for several years, depletion must be deducted from the date of discovery in setting up the value on the books. Any later increase in the percentage of recovery does not change the value at the discovery date.

The question is frequently asked whether or not the discovery value can be included as a part of the cost when computing the profit on a sale of mining property. Should the discoverer work the mine himself he would recover the discovery value tax free, and it would seem logical for him to receive the same amount tax free in event of sale. However, my opinion is that the law provides for discovery value to be returned tax free through depletion only, and that, as special relief is given in the 20% clause covering the sale of mines, the deduction of discovery value as a part of the cost in event of a sale will not be allowed.

Apportionment of Discovery Value Between Lessor and Lessee

One of the most perplexing sections of the law is that which permits the apportionment of the discovery value between the lessor and lessee.

This provision of the law reads well, but in practice is difficult to apply on account of the conflicting interests between the fee owner, various sublessees and the mine operator, as each of them attempts to appropriate as large a part of the discovery value as possible and the total of the discovery values claimed by all the interested parties cannot exceed a fair discovery value of the property as a unit.

As to the method of apportionment of this discovery value the regulations are not specific, but it appears to be the intention of the department to make the apportionment by allocating to mine operators the engineer's valuation of the discovery after making deductions of all relevant factors, including the estimated royalty to be paid, and allowing to the lease owners the royalty value permitted as a deduction on the mine operators' valuation. As engineering values are to an extent estimates, this allocation between the lessor and lessee is frequently complicated because different engineers estimate the value of the various interests, the total of which is greater than a fair value for the property as a whole.

The problem is further complicated when the owner of a lease sells it for a bonus and retains a royalty interest, as two points of view are possible regarding the nature of the transaction. It can be construed as a completed sale, and the bonus as a cash payment on account, while the royalty interest is in the nature of deferred payments. As title usually passes in sales of this kind, this opinion has merit.

The other version is to consider the bonus as a royalty paid in advance of the extraction of the mineral, because all bonus payments have the effect of reducing the royalty to be paid on future operations of the mine.

It may be that this question will be decided upon the facts as they exist in individual cases, but whichever view prevails it will materially affect the tax computations, because it depends upon the interpretation of the transaction as to whether the receipts represent income or a conversion of one form of capital into another.

If the owner of a lease operates the mine, he can avail himself of the discovery value through depletion; but should he dispose of the lease without a royalty interest, he will sell it at a figure which will reimburse him for the discovery value. At the same time, the purchaser of the lease has fixed its value so far as he is concerned when he set a purchase price, and no further discovery value is permissible in his case, unless further discoveries are made. In transactions such as this, neither the lessee nor lessor can avail himself of the discovery privilege of the tax laws.

Apportionment of Values to Various Leases

A mining company may own several mines in fee or leasehold which have been taken over by a corporation at a lump sum of, say, $5,000,000.00, the value of which can be substantiated. The company is entitled to have this amount returned tax free through depreciation and depletion, and the question arises as to whether it would be permissible or not to return this investment against the operation of only a part of the owned mines, because the remainder have not as yet been opened for operations. This is a natural question for a mining business man, but when advocating such return he forgets the future. In my opinion, such a method of computing depletion would not be permitted by the internal revenue bureau, because it is not proper accounting and does not attempt to state true profits. The taxpayer is acting against his own interests by advocating this procedure, because the time will come when his investment will have been returned and on future operations he will have no depletion charges against his earnings—and tax laws will be with us for a long time to come.

The method to pursue in the case of such a company is to allocate to each tract of land its just proportion of the capitalization and charge as depletion against the revenue of each tract the value assigned to that particular piece of land. This is the only correct accounting procedure, and has the advantage of spreading the depletion charges over the entire operation of all the mines.

Dividends

The accounting procedure of a mining company in so far as the payment of dividends is concerned depends upon whether the company intends to continue in business or is a liquidating company. If it is the intention to discontinue after the mine being operated is depleted, it is proper to pay out to stockholders the cash accumulated in bank regardless of whether it represents profit or a return of the original investment, provided the profits are distributed first, and when dividends are declared out of capital paid into the company the stockholders are aware that they are receiving a part return of their investment or liquidating dividends, as they are called.

If it is the policy of the company to continue mining operations by the purchase of other mines, the capital investment must

be preserved and possibly increased by the retention of a part of the profits. In such a company all dividends paid to stockholders must represent earned profits.

The payment of taxes on liquidating dividends is not an uncommon occurrence. Stockholders should be advised of the nature of all liquidating dividends. No liquidating dividend can be paid until all the earned surplus has been distributed to the stockholders as dividends. After the surplus has been returned, any further dividends are liquidating dividends paid from the invested capital.

An interesting accounting problem arises when liquidating dividends are paid, as the books of account and financial statements must clearly indicate a corresponding reduction of the capital investment resulting from such payment. The first impulse would be to charge liquidating dividends against the reserves, but this procedure results in a very misleading balance-sheet, because it does not set forth the reduction in the value of the capital assets and the impairment of the capital stock. The proper method of preparing a balance-sheet in such circumstances is to reduce the cost of the lease, mill and development by the depletion and depreciation reserves and correspondingly reduce the capital stock to the extent of the liquidating dividends paid.

Variation of Tax Problems

In conclusion, I wish to explain that the tax laws are like all laws—one can only generalize about them in discussion, but when it comes to applying generalities or decisions in similar cases to any particular company it is the invariable rule that there are certain legal, economic, engineering and accounting phases which differentiate it from all others.

The question resolves itself, therefore, into a study of all the relevant factors. A decision must be made upon the facts as they exist in each individual company.

Technique of Consolidated Returns

By John W. Roberts

Consolidated income-tax returns of affiliated corporations are one of the most interesting developments of recent tax legislation. The lawyer, who for years has taken care of his client's income-tax work, now finds such an intricate accounting problem thrust upon him that he frequently recognizes the need of specialized accounting assistance and calls in the services of a public accountant. In order that the accounting profession may be prepared to meet this situation in a creditable manner, every public accountant should be devoting constant thought and study to this branch of accounting, in which his services at any time may be required. It is only by such continuous study and preparation that he can expect to acquit himself well when the test comes.

For the preparation of consolidated returns the accountant must be equipped both with a thorough knowledge of the law and with a special technique to facilitate the compilation of a return that will clearly state the facts in conformity with all the complexities of the law and present a record that will be susceptible of proof at every step. It is not the purpose here to discuss the law but the technique of its application in compiling the consolidated return.

If we look to regulations 45 for a suggestion as to procedure, we find the following in article 864:

> As a first step in the computation a consolidated balance-sheet should be prepared. . . . Such consolidated balance-sheet will show (a) the capital stock of the parent or principal company in the hands of the public; (b) the consolidated surplus belonging to the stockholders of the parent or principal company; and (c) the capital stock, if any, of subsidiary companies not owned by the parent or principal company, together with the surplus, if any, belonging to such minority interest. In computing consolidated invested capital the starting point is furnished by the total of the amounts shown under (a), (b) and (c) above. This total must be increased or diminished by any adjustments required to be made under the provisions of sections 325, 326, 330 and 331 of the statute, and articles 811-818, 831-869, 931-934 and 941 of the regulations, except as otherwise provided in articles 865-868.

Two points are stated in this article. One is that the consolidated balance-sheet should be made first and the adjustments

applied afterwards. The other is that the consolidated balance-sheet should show three classes of invested capital, the sum of which is then subject to adjustments. The only way to interpret this article is by an attempt to explain in a few words what elements enter into consolidated invested capital, rather than by dictum prescribing a required procedure. Few balance-sheets submitted with consolidated returns make any attempt to show separately

(a) Parent company capital stock;

(b) Portion of consolidated surplus owned by parent company stockholders;

(c) Outstanding subsidiary capital stock and portion of consolidated surplus attributable thereto.

Some such balance-sheets may exist, but the general practice has been to show

(a) Capital stock of parent and subsidiaries in the hands of the public;

(b) Consolidated surplus.

That most balance-sheets have been made out in this manner and no objections have been raised by the treasury department supports the interpretation given above, that article 864 is not intended to prescribe the procedure, but to explain the elements that must ultimately be found in the invested capital.

And this interpretation applies with equal force to the other point brought out in the same article. It is evident that the treasury department is not concerned as to whether the consolidation is made first and the adjustments applied afterward or vice versa, so long as the resulting figures for invested capital are correct and are supported by a clear presentation of the adjustments made and the processes of consolidation, so that the whole structure will rest solidly on the books as a foundation.

The question, therefore, whether the adjustments or the consolidation should come first, should not be considered as closed, but as left open to be determined by experience and research in favor of whichever method may prove the more serviceable to all concerned.

The search through ancient records to determine invested capital has resulted in placing on the books of corporations great

numbers of retroactive journal entries. In fact it is quite usual now, after the past history of the business has been thoroughly investigated, to make such entries in the books as will correct any entries of past years that may have been at variance with the rules laid down for invested capital, so that in future returns the invested capital may be found reflected in the book balances with few, if any, adjustments. After the return has been completed and filed, the client wants to know what entries must be made to substantiate depreciation, etc., and what entries it would be desirable to make to bring the books into complete agreement with the invested capital shown in the return.

These entries, of course, must be placed on the books of the several corporations, and a mass of adjustments applicable to the consolidated balance-sheet is of little assistance. Before it can be used it must be completedly reanalyzed and rewritten, first to sort the adjustments by corporations and then to state them in journal form. All this labor can be saved and a client satisfied, by preparing the adjustments in the first instance in the form of journal entries to be applied to the separate balance-sheets before consolidation. The revenue agent also, who checks up the return, will find the record more intelligible, especially if the above-mentioned retroactive entries are subsequently made. And the accountant derives the benefit of greater certainty in the detection and correction of errors before his work is completed. By keeping constantly in mind the ideal of such accounting as would comply with all the requirements of the law and regulations he has a definite criterion that will help him to make sure that the balance-sheets and surplus accounts of the several companies have been properly adjusted before proceeding to consolidate.

Since, therefore, article 864 was intended to set forth the underlying principles as to what invested capital should contain, rather than to prescribe a procedure, and since the interests of the revenue agent, the client and the accountant are better served by the application of adjustments to the balance-sheets of the individual companies, there need be no hesitation in disregarding the letter of the regulations in this particular to carry out their spirit.

It should be noted that even if an accounting system ideal for tax purposes had been followed from the beginning by each company, there might still remain some adjustments to be made on the

return form after consolidation. For example, one of the limitations imposed upon intangible assets by the law is entirely arbitrary and not intended in any way to influence the bookkeeping, namely the limitation in 1917 to 20% and in 1918 to 25% of the capital stock. But these adjustments on the return will be very few and will not interfere with the clarity of the record.

To make clear the procedure proposed, the following outline of the work and its result is given:

The accountant first prepares comparative balance-sheets for each of the affiliated companies, with columns for the following, (indentions indicating sub-headings:)

- End of preceding year
  - Balance-sheet per books
  - Adjusting entries per schedule————.
    - Debits
      - Entry number
      - Amount
    - Credits
      - Entry number
      - Amount
  - Adjusted balance-sheet
- End of current year
  - Balance-sheet per books
  - Adjusting entries per schedule————.
    - Debits
      - Entry number
      - Amount
    - Credits
      - Entry number
      - Amount
  - Adjusted balance-sheet.

After filling in the "balance-sheet per books" under each date, the schedule of adjusting entries is prepared by a scrutiny of the balance-sheet and of the corporate history from which it is derived. This schedule should consist of a list of entries in journal entry form, giving in regard to each all details that would be required if it were to be placed on the books, together with an explanation

making clear the reasons why the entry is in order and referring to the entries of prior years, if any, which it is intended to correct. Many of these entries will be the same at the beginning and end of the year, while some, though the same in nature, will differ in amount, and others will appear only under one of the dates.

When it is found necessary to correct arbitrary depreciation of previous years, it is desirable to prepare a complete statement by years of the depreciation that should have been written off, showing the resulting balances in the reserve at the end of each year. Two entries should be made to adjust each balance-sheet, one cancelling the reserve found in the books and the other setting up the reserve that should have been accumulated and referring to the schedule of depreciation described above which should be furnished as schedule A-18 of the return. In such cases, of course, the returns of prior years would have to be amended to conform thereto, and the entries correcting the last balance-sheet should be placed on the books.

Other entries will correct appreciations or arbitrary adjustments of values in the past, and the booking of such adjustments will be optional. There usually are other adjustments which should not be placed upon the books and do not represent corrections of erroneous bookkeeping in any sense but are made for tax purposes only in order to bring the surplus into agreement with the requirements of the law. For example, dividends declared and reserve for federal income and profits taxes, although real liabilities, are, under the law and regulations, part of the surplus until the payment thereof becomes due. Although these should stand as liabilities on the books and in balance-sheets for commercial purposes, it is desirable on the tax balance-sheets to throw them into surplus, so as to show in surplus the balance that is considered to be such in the law and regulations.

Interesting problems arise from the provision that depreciation and depletion of assets acquired prior to March 1, 1913, are based on the value as of that date (or in exceptional cases of some later date) rather than on cost. These provisions in effect imply that for determining income the assets should have been adjusted by an appreciation or a write-off at March 1, 1913, and yet the rules regarding invested capital disallow any such adjustment. This situation may be met by carrying two surplus ac-

counts, one covering the surplus permissible as invested capital and the other the surplus due to appreciation at March 1, 1913.

In order to claim depreciation or depletion on an enhanced value as of March 1, 1913, it is required (1) that the value be proved and (2) that it be set up in the books. It often devolves upon the accountant to determine and prove the value—which is usually a difficult matter, but one involving resourcefulness and keen reasoning rather than technique. The booking of the appreciation ordinarily could not be done until after the accountant's work was finished and the return, prepared by him, approved and accepted by the client. It would, therefore, appear as one of the entries adjusting the balance-sheets and would be a charge against either the asset account in question or a special account "appreciation of ——— asset at March 1, 1913," and a credit to "surplus due to appreciation at March 1, 1913." Assuming that depletion based on cost values has already found expression in the books, effect would be given to depletion of this increased value (and in like manner to depreciation) by entries applicable to the initial and final balance-sheets charging "surplus due to appreciation at March 1, 1913," and crediting "reserve for depletion" with depletion accumulated from March 1, 1913, to the respective dates, based on a rate obtained by dividing the appreciation by the recoverable units. If desired, a special depletion reserve may be used to keep this class of depletion separate from the other, in which case the sum of this reserve and the special surplus would continue to equal the amount of the appreciation.

The schedule of adjusting entries to be applied to the balance-sheets of the beginning and end of the year for each company can be worked up as the investigation of that company's history and the solving of its particular problems progress. When it is completed, the adjusting entries can be posted in the proper columns of the balance-sheets, and the figures for the adjusted balance-sheets obtained by cross-footing. The accountant can then study these adjusted balance-sheets to make sure that they present the facts as they would appear if all the accounting from the inception of the business had been such as the law intends.

After having thus reviewed the adjusted balance-sheet of each of the affiliated companies and assured himself that it meets the requirements of the tax return, the accountant can proceed to

make up a consolidation of adjusted balance-sheets at each date, with columns as follows:

Consolidated balance-sheet.
Eliminations per schedule————.
Adjusted balance-sheet, company A.
Adjusted balance-sheet, company B.
Etc.

That the balance-sheets are of great importance, not only for determining invested capital, but also for verifying the statement of income, is too well understood to require discussion and is illustrated by the emphasis placed by the treasury department on the reconcilement of the taxable net income with the change in surplus during the year. For this purpose two schedules are provided in form 1120: schedule B to reconcile the taxable net income with the net profits for the year and schedule D to reconcile the net profits for the year with the change in surplus exhibited by the balance-sheets. There appears to have been no reason for thus splitting up the reconcilement, unless it was thought that this arrangement would conform to the accounting practice of the largest number of corporations. There is certainly nothing in the law or the logic of its application to make such a division necessary, and, where more convenient, a single direct reconcilement is preferable. The reconcilement of the consolidated net income with the consolidated balance-sheets is often a very involved and difficult matter. The reconcilement, however, can be handled, in conjunction with the consolidation of net income, in such a manner as to make a very clear presentation of the facts safeguarded at every step against errors.

The method proposed is first to draw up for each company a schedule with columns as follows:

Change in surplus per books.
Adjusting entries per schedule————.
- Debits
  - Entry number
  - Amount
- Credits
  - Entry number
  - Amount

Change in surplus per adjusted balance-sheets.

The first twenty-five lines of this schedule would cover the same items of income and deductions as are shown in schedule A of form 1120. Line 25 would be the taxable net income. From that point down it would be continued as follows:

25 Taxable net income.
Add items not included:
  Exempt interest on U. S. obligations.
  Exempt interest on state and municipal bonds.
  Dividends received on stock of domestic corporations.
  Dividends out of profits prior to March 1, 1913.
  Dividends from personal service corporations out of profits prior to January 1, 1918.
  Appreciation at March 1, 1913, of assets sold during the year.
  Etc.——————

Total.
Deduct items not deducted:
  Donations, gratuities and contributions.
  Federal income and profits taxes.
  Foreign income and profits taxes.
  Insurance premiums for the benefit of the corporation.
  Interest for carrying inadmissible assets.
  Dividends.
  Etc.——————

Total to be deducted.
Net change in surplus for the year.
Surplus beginning of year (including surplus due to appreciation).
Surplus end of year (including surplus due to appreciation).

After analyzing all the items that constitute the change in surplus balance according to the books and filling in the column provided for that purpose, the footings should agree with the surplus balances brought forward to this schedule from the corresponding columns of the balance-sheets.

The adjusting entries may then be inserted in the subsequent columns, using the entries that have already been scheduled as

adjustments to the balance-sheets. In this operation all entries which are the same at the beginning and end of the year, both in nature and amount, may be paired off and omitted. All other entries should be posted, giving due heed to the rule that all adjustments made against the initial balance-sheet affect the surplus account for the year inversely. In other words, although the entries applicable to the final balance-sheet are posted to the surplus schedule directly (i. e., entries debiting surplus are posted as debits and entries crediting surplus are posted as credits), the entries applicable to the initial balance-sheet are posted to the surplus reversely (i. e., entries debiting surplus are posted as credits, and entries crediting surplus are posted as debits).

This schedule may then be cross-footed to produce the figures for the last column, "change in surplus per adjusted balance-sheets," the footings of which should agree with the surplus balances inserted in the last two lines. If the system has been correctly followed, the figures appearing in the last column will show interesting features. For instance, although the book figures for dividends and federal income and profits taxes represent the dividends declared and taxes accrued, application of the adjusting entries results in figures for the adjusted column that represent the actual payments made during the year. Bad debts, which may have been an estimated figure in the first column, are changed in the last column to the amount of ascertained losses.

The consolidation of adjusted income and the reconcilement of consolidated surplus are then prepared by making a schedule with the same items for lines and with columns for

Consolidated.
Eliminations.
Company A as adjusted.
Company B as adjusted.
Etc.

The advantages claimed for this system of procedure may be summarized as follows:

1. The preparation of separate adjusted balance-sheet and surplus analysis for each company enables the accountant to work with a definite criterion in mind as to the propriety and adequacy of the adjustments made, and, if employing numerous assistants on

the work, to gauge the results of each adjustment before passing it into the consolidation.

2. The adjustments, being in the form of journal entries applicable to separate companies—ready, if needed, to be placed on the books—are much more useful to the client than a long list of adjustments applicable to the consolidated balance-sheet.

3. The subsequent entry of these adjustments on the books does not alter the adjusted balance-sheet of the individual company nor the consolidated balance-sheet.

4. The record is clear from the books of the several companies to the final computation of the tax.

5. The schedules furnished constitute the essential working papers and may be compiled, particularly the list of adjusting entries, as the accountant proceeds with the investigation and solves one point after another in the history of the business.

It has been said that there is always more than one way of getting around a stump, and that is doubtless as true regarding the procedure for consolidated returns as anything else. The method proposed in this article, although it has been used with satisfactory results, is not the only way to handle the matter. Undoubtedly accountants interested in this branch of accountancy have devised many different systems, each with its own advantages; but thus far little has been published on the subject, and it is hoped that this article will lead to others, thereby eventually bringing out the wisdom that comes only from discussion.

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EDITORIAL

A Word to Those Who Would Be Accountants

Within the last few years there has been an enormous increase in the number of inquiries received as to the prospects and profits of public accounting. Innumerable young men and women write to ask if there would be an opportunity for them to enter the profession, and if there were such opportunity what the compensation would be.

In regard to every calling it may properly be said that the results depend largely upon the fitness of the individual, but in accounting more than in most professions it is essentially true. The work for many years will be arduous, and if there be no natural aptitude for analysis, mathematics, economy and other elements of accounting there will be no success. The person who is not imbued with a sense that accounting is the one thing for which he is best fitted would do well to select some other vocation.

A letter recently written by one of our eminent accountants to his nephew was brought to our attention and the contents of it contained so striking and delightfully worded a reply to the oft-repeated inquiry that we asked and obtained permission to present the letter to our readers.

It will be found somewhat reminiscent of the familiar letters of old Gorgon Graham to his son, but the style is quite distinct and the profound philosophy runs on somewhat different lines.

Every accountant who has had to answer inquiries from prospective applicants for positions or has had to give advice to relatives and friends will welcome the publication of the letter which follows as providing a complete and admirable answer suitable, with slight variations, to almost every case.

The letter is commended to the careful and prayerful consideration of every accountant and everyone else who thinks of becoming an accountant.

My dear PAUL:

Your letter of November 10th reached my office during my absence from the city, else I should have replied thereto sooner.

I am indeed glad to hear from you and to learn something of your present notions concerning the matter of selecting a career for yourself.

Now, in my opinion, the very best immediate service I can render you is to interrogate you, or rather get you to interrogate yourself, and to discuss with you this matter of choosing a vocation. Permit me, therefore, to take the rostrum and preach a little sermon.

First, let me say that what the world most needs is men who, having studied themselves and their own natural vocational qualifications, deliberately choose a career, whether it be trade, business or profession, and then for all time thereafter, consistently, through adversity and temporary allurements, stick to their chosen career. The world is full of men whose lives are fashioned on the doctrine of opportunism and who sail their craft through the troubled waters of life without any further chart or compass than the apparent immediate promise of the enterprise which, for the moment, engages them.

The testimony of every person whose opinion is worth anything is that the men who do the things in this world which are worth while are the men who establish for themselves an objective in life and pursue that objective despite any temptations or allurements which, for the moment, seem to promise an immediate greater advantage. So much for this idea.

You are old enough to grasp it and all that I am trying to do is to emphasize the importance of starting out right.

I suppose that you have given sufficient serious consideration to your own natural aptitudes and inclinations and to your own really basic temperamental qualifications and vocational fitness.

In the first place, you should carefully consider whether your career shall be in business or in a profession. While you are doing that bear in mind that while a professional career, as distinguished from a business career, may hold out satisfactions of many kinds other than merely financial reward, the fact nevertheless remains that if all the other factors which might enter into the problem of success were the same, the business career, on the average, holds out the promise of greater financial success than does the professional one. You have only to consult your own immediate observations on this point, or talk with your dad or older men about it, and either you or they will have great trouble in finding an instance in which a man ever became rich (what we nowadays call rich) from the practice of any kind of profession. It is true that men have achieved large financial success who were professional men, but usually their financial rewards did not come from the pure practice of their profession, no matter what it might be.

Of course a comfortable competence is the first and prime consideration, but if you choose a professional career you want to do so with the idea that the choice is based on considerations supplemental to and even greater in your estimation than the mere financial rewards. In other words, you would rather do the work of your profession than do anything else, no matter how large and alluring the pay might be.

Having decided this question for yourself, and assuming the choice to be a profession, next consider carefully your own qualifications for the various professions, and bear in mind that every one has natural qualifications for something in life, and much depends on finding the thing for which his natural qualifications fit him.

Having determined this, choose it and stick to it through thick and thin, unless you discover that your own character analysis of yourself was mistaken. All the work and study you do thereafter must be planned to develop these qualities and to acquire all the theoretical and practical knowledge which will equip you to be a more skillful practitioner.

The basic natural mental qualification for the profession of accountancy is not the mathematical or number ability (although this is a strong supporting one), but is what I might call the analytical faculty, viz.: a power to reason straight and correctly, from fundamentals to derivatives (this we call deduction), or from derivatives back to fundamentals (this we call induction). You should possess the ability to analyze a complex problem, resolve it into its component elements, distinguish between the important and the relatively unimportant, and discover the relation of each part to each other and to the whole. If this quality is lacking in you, and if you have not the ability to stick to your problem without being tempted into all kinds of fanciful and collateral and interesting and related suggestions, you lack the one mental quality which lies at the very base of success in the practice of accountancy. You might make a good poet or a painter or a successful promoter or a salesman, or many other things, but would you succeed in accountancy, you must be able to develop in yourself the quality of concentrating your mind on the one thing which for the time being engages your attention.

Of course you have learned by now that a bookkeeper is no more an accountant (although an accountant must know all about bookkeeping, about law, economics and many other things) than an apothecary is a chemist, a butcher is an anatomist, or a skillful mechanic is an architect or an engineer.

Should you choose accountancy as your profession, you will have to make the same sacrifices as the beginner in any other profession by way of study, drudgery and years spent to acquire experience, during which time other young chaps will be earning more than you are.

Of course it may be that a young man of only twenty years of age cannot yet make that careful self-analysis which will enable him to decide into which part in the game of life he fits the best. Whether or not he can make this judgment depends in part on biological conditions and in part on previous environment and mental experiences. He can, however, at least make a tentative and prima facie decision on the basis of which to will to adopt a rigid course long enough to test thoroughly his tentative conclusions.

I gather from your letter that your present notion is that you have an inclination toward and some fitness for the profession of accountancy, and I assume that this is not based merely upon the notion of desiring a job which will answer your immediate purposes—this job to be lightly abandoned for another which, for the time being, promises better rewards in the way of financial compensation, hours, comforts or any other inducements.

If the foregoing assumption be correct, I have the permission of my partners to offer you a junior clerkship on our staff. I would not expect that you could be of very much service for a number of years, even though you had every natural qualification for the work. I would expect that for the next two or three years you would intensively pursue a course in accountancy which you could do through extension methods (by correspondence). During this time you would have the opportunity for laboratory work, the more or less tedious drudgery in a junior capacity that employment on an accountant's staff affords. After serving this time of apprenticeship for three or four or five years, you might begin to think of having laid the foundation subsequently to become an accountant. The studies which you have pursued at school, if you have pursued them with any profit, will have been excellent preparation, but don't get the idea that they have done any more toward completing your preliminary education as an accountant than

would graduation from a primary school have completed an ordinary classical education—which would only be begun after you had been graduated from a university.

Should you conclude to make the trial for long enough thoroughly to determine this matter for yourself, and, as a means to this end, come to work for this firm, you would do so on exactly the same basis as do any other young men attached to our staff. I would rarely come in contact with your work, and would only learn about it through the senior members of our staff under whose direction you might work for the time being.

You could hope to receive to begin in the neighborhood of $75.00 a month, and you would have to arrange your living in such a way that this would provide for your daily necessities and pleasures and have a little left over for tuition and the possible necessity for a nest egg. At present you have no experience whatever to fit you to do even the most ordinary kind of clerical service, and it might be desirable that we should get a job for you in an office somewhere among our clients, to absorb at least a little atmosphere on the inside of a business office.

Exactly the same method could be adopted which one of my partners employed with his two sons, about which you might be interested in knowing. When the boys left school both got jobs in our office for the time being, until an opportunity presented itself to place them temporarily in the offices of clients who needed somebody at that time. They would stay no longer than was necessary to learn all they could from the jobs and put into the jobs all of which they then were capable, when they would arrange with their bosses to have somebody succeed them whom they thoroughly instructed in the duties of the jobs. They would then take other jobs at one-half of what they were earning in those which they resigned. This process was repeated for a number of years, and in the intervals they had some opportunity for professional training on various engagements handled by this office. During all this time they pursued their studies, and in the course of seven or eight years acquired a theoretical foundation and a practical experience of unusual scope for young men. Their dad being a member of our firm, in my opinion, did not always do them full justice in the way of compensation—at least he set more severe standards for his own boys than he did for others on our staff who were utter strangers. However, the schooling they got was calculated to be the best in the long run. They are now both married, and one of them is a junior partner in our firm.

If the time should ever come when you begin to make good, all kinds of opportunities will offer themselves to accept private employment in business organizations (where you may be doing professional work for the firm) at a compensation considerably greater than you will then be receiving. The test of your fitness for the profession will come when you can decline these opportunities and stick to your chosen career. It is easier to become proficient in one routine job or with the problems of one particular business (and you can be very much more valuable to a business after you have learned all about its needs) than to learn a profession which has to deal with every kind of business and be able to bring to the problems of each one suggestions of value, although at the outset of your engagement you know nothing whatever about the technique of that particular business.

My purpose in the foregoing rambling dissertation is to enable you to get a perspective of the thing you are thinking about and to present a vision of some of the problems which the choice of the profession of accountancy will involve.

After all, the best service I can render you is not to offer you a job, but to say something which might help you intelligently to decide for yourself what is by all odds the most important and biggest problem with which you ever will be confronted, namely, that of wisely and intelligently choosing your life's work.

Yours sincerely,

Income-Tax Department

EDITED BY JOHN B. NIVEN

For the first time in over two years we are not walking in the dark in approaching the season for filing income-tax returns. In both the last two years we had to deal with new laws—the revenue acts of 1917 and 1918, respectively—containing elements entirely novel to us and aggravated by lateness in promulgation of the relative regulations and forms. The conditions and rates for taxation of 1919 incomes and those of subsequent years also—until legislation declares otherwise—are fortunately known in advance. Though slightly lower than those for 1918, the rates for 1919 are, like those of 1918, set forth in the revenue act of 1918.

The normal individual rates for 1919 and following years are 4% on the first $4,000 above the exemption and 8% on the balance (as against 6% and 12%, respectively, for 1918); but the surtax rates remain the same.

The normal corporation rate is now 10% (instead of 12%); the excess profits rates are 20% and 40% in the first and second brackets, respectively (where they were 30% and 65% for 1918); and there is no 80% war profits tax except on income from war contracts.

RECOMMENDATIONS BY THE TREASURY DEPARTMENT

If the legislative branch of the government pays heed to the executive branch, it will in future be the policy to fix the terms of taxation not only in advance of the year in which the taxes are to be collected, but in advance of the year in which they accrue. In commending the revenue act of 1918 to congress for reconsideration, the president, in his message of December 2, 1919, urged that the present law should not be disturbed so far as regards taxes for the calendar year 1920, payable in the calendar year 1921. And the secretary of the treasury in his annual report goes on to say:

> "It is of the utmost importance that the congress should follow the wise precedent adopted by the last congress in determining in advance of the year's business the basis upon which taxes are to be imposed. Uncertainty in respect to taxation during any given business period results in each taxpayer's setting aside for taxes an ample margin to cover variations in the tax law which may affect him onerously and calculating his costs and prices on that basis. Even a bad law is better than a retroactive law. It is, therefore, of the utmost importance, in my judgment, that the congress should give consideration in the calendar year 1920 to the question of revision of the tax law, with a view to making such revision effective well in advance in respect to the incomes and profits of the calendar year 1921."

The fundamental reform in the minds of the chief executive and the secretary of the treasury is not reduction but "simplification of the income

and profits taxes." Indispensable as war measures, these financial devices are not favored as productive of prosperity in peace times. Congress should reduce the excess-profits tax, or eliminate it altogether; curtail the highest brackets of the surtax; and make up the difference by increasing the normal rates and the lower surtax rates. Secretary Glass has this to say:

> "Though any appreciable reduction in the amount of the revenues from taxation is not to be thought of during a fiscal year when the government's current disbursements will exceed its current receipts, ... it is, I believe, the duty of the congress to give its closest attention to the study of the incidence of taxation with a view to the revision of the revenue act on lines which will produce the necessary revenue with the minimum of inconvenience and injustice. The treasury's objections to the excess-profits tax even as a war expedient (in contra-distinction to a war-profits tax) have been repeatedly voiced before the committees of the congress. Still more objectionable is the operation of the excess-profits tax in peace times. It encourages wasteful expenditure, puts a premium on overcapitalization and penalty on brains, energy and enterprise, discourages new ventures and confirms old ventures in their monopolies. In many instances it acts as a consumption tax, is added to the cost of production upon which profits are figured in determining prices, and has been and will so long as it is maintained upon the statute books continue to be a material factor in the increased cost of living.
>
> "The revenue sacrificed by elimination or reduction of this tax must be sought in an increase of the normal income tax (from which the income on Libery bonds is exempt) and of the lower brackets of the surtax. The upmost brackets of the surtax have already passed the point of productivity, and the only consequence of any further increase would be to drive possessors of these great incomes more and more to place their wealth in the billions of dollars of wholly exempt securities heretofore issued and still being issued by states and municipalities, as well as those heretofore issued by the United States. This process not only destroys a source of revenue to the federal government, but tends to withdraw the capital of very rich men from the development of new enterprises and place it at the disposal of state and municipal governments upon terms so easy to them (the cost of exemptions from taxation falling more heavily upon the federal government) as to stimulate wasteful and non-productive expenditure by state and municipal government."

This last topic, the treatment accorded income from state and municipal bonds, draws an emphatic protest from the head of the treasury. It is not the exemption of this income, as such, from taxation that is attacked. That exemption has always been thought to be inevitable. The courts have held that "the United States has no power under the constitution to tax either the instrumentalities or the property of a state," and that the tax on interest from their obligations "is a tax on the power of the states and their instrumentalities to borrow money, and consequently repugnant to the constitution." It was out of deference to this theory that the interest in question was specifically freed from income tax by the terms of the income-tax laws.

What the secretary criticises is the exclusion of the exempt state and municipal interest from the calculation by which the taxpayer's total income

is determined and his surtax fixed. Thus, the apparent amount of a taxpayer's total income may be reduced, his other income may be brought within a much lower zone than that wherein it rightfully belongs, an avenue for evasion of his just share of taxes is legalized, and, into the bargain, the states are given a premium over the federal government in the disposition of their securities. All these defects, the secretary holds, should be remedied, and he makes his recommendations plain in these words:

> "I call attention to the urgent necessity of revision of the revenue law so as to require that, for the purpose of ascertaining the amount of surtax payable by a taxpayer, his income from state and municipal bonds shall be reported and included in his total income, and the portion of his income which is subject to taxation taxed at the rates specified in the act in respect to a total income of such amount. The treasury's recommendations in this respect have been transmitted to the appropriate committees of congress in connection with the revenue act of 1918, and again in the present calendar year. Under the present law a person having an income of, say, $1,000,000 from taxable securities would, upon the sale of half his property and the investment of the proceeds of that half in state or municipal bonds, not only obtain exemption for the income derived from such investment in state and municipal bonds, but greatly reduce the surtaxes payable in respect to his other income. It is intolerable that taxpayers should be allowed by purchase of exempt securities, not only to obtain exemption with respect to the income derived therefrom, but to reduce the super-taxes upon their other income, and to have the super-taxes upon their other income determined upon the assumption, contrary to fact, that they are not in possession of income derived from state and municipal bonds.
>
> "It is impossible to determine the actual gain in revenue to the government which would result from such an amendment of the law. That it would be very material I have no doubt. A still more important result of the amendment of the law in this respect, however, would be the reflex benefit to Liberty bonds which carry exemption from normal income tax, but (as to the great bulk) not from surtaxes. The very great advantage the states and municipalities now have in conferring upon holders of their bonds larger exemptions from federal taxation than the federal government itself confers upon holders of Liberty bonds should be reduced, so far as it may be reduced, by the adoption of appropriate administrative provisions in the federal revenue law."

That the amendment asked for will not be found unconstitutional the secretary is confident. He distinguishes the income tax on the income from state and municipal bonds from the surtax on the individual's income. The interest on obligations of states and their subdivisions now exempt would, it appears, continue to be exempt from normal tax, to satisfy the constitutional difficulty, and would be brought in for surtax only. The income tax may recognize sources of income, but the surtax regards only dimensions. It is a tax on income in bulk, without regard to identity of components; it bears on income for reaching the magnitude it does in the hands of any one individual. This seems to be the underlying theory on which reliance is placed. To quote again from Secretary Glass:

> "A question has been raised concerning the right of the federal government under the constitution to tax the income from state and

> municipal bonds, but there can be no doubt of the constitutionality of such an administrative provision. The proposal is not to tax the income derived from state and municipal securities, but to prevent evasion of the tax in respect to other income. The principles involved are abundantly established in the decisions of the supreme court sustaining taxes upon corporations, bank stock, etc., computed after taking into account income derived from government, state and municipal bonds."

"Notes" by the Treasury Department

In a document, entitled *Notes on the Revenue Act of 1918*, the secretary of the treasury draws attention to numerous suggestions that have been made, both from outside and within the department, for amendment of the law. These are distinctly not recommendations, but merely a collection of ideas gathered from all sources and submitted to the committee on ways and means of the house of representatives for consideration.

The most important of these "suggestions" are indicated below, to show the trend of thought in the development of our experience with income taxation. If read with care not to confuse them with existing requirements, they are informative.

> (a) To extend the scope of the "personal service corporation" provision (section 200) to cover all "personal corporations," whether employing capital or not, if the number of inactive stockholders is small, and the active ones own a stipulated majority of the capital stock.

This suggestion has considerable merit, moving as it does towards the elimination of an artificial distinction between actual partnerships and what are virtually partnerships in corporate form.

> (b) To enlarge the class of property exchanges from which (under section 202) no loss or gain is held to accrue, so as to include cases (1) where the market value of the property received cannot be determined; (2) where the property received is substantially all of the stock of a corporation; (3) when the exchange is between "affiliated" corporations; and (4) all cases of corporate reorganization or partnership-corporation organization, whether the new securities have a greater par value than the old or not.

Why the line between a profitable and a no-profit exchange should ever have been drawn at such an ambiguous standard as the difference between par value is incomprehensible to the innocent bystander; and there are innumerable conversions of rights and properties that are changes in form only and should not be deemed closed and profit-or-loss fixing transactions.

The general intent of this suggestion is so commendable that it is to be hoped it will appeal to congress and take definite form.

> (c) To permit the deduction of operating or capital losses incurred in any year from the profits of the preceding year, or if in excess of that, then from the profits of the succeeding year.

If this idea were adopted, what has been felt to be a grievance ever since the enactment of the 1909 act would be removed. The alternative conceptions in the law are of annual income as against no-income, but (except for

the opening wedge introduced into the 1918 act, in section 204, for fiscal years falling between October 31, 1919, and January 1, 1920) not of positive income as against negative income or loss. Why should each year thus be made to stand by itself in tax accounting, contrary to the principles maintained in sound financing? No such arbitrary divisions by years can be recognized in the accumulation of a corporate surplus or deficit and the payment of dividends.

> (d) To make the depreciation and depletion allowances on property received by gift and the profit or loss to a beneficiary from its sale dependent on its cost to the donor and not its value at the date received by the beneficiary.

The irony of this proposal is at once evident. The beneficiary who parted with his gift would have to pay a tax on any increase in the value of the property while in the hands of the donor. This appreciation does indeed escape the income tax under the present law, but when the property passes by bequest, devise or descent it bears the estate tax, which, being based on market values, gives the federal government its due under another portion of the revenue act. And perhaps this is the key to a correct solution of the present inequity in allowing appreciation in value of property bestowed by the gift of a living donor to escape the tax: tax the donor and not the beneficiary.

> (e) To create a distinction between current income and "extraordinary" income, so that compensation paid in a lump sum in one year for services of a period and gains realized in one year from the sale of investments and capital assets may be taxed at special rates, with due regard to the years in which the income accrued.

This thought is as much in line with that expressed in (c) above as it is opposed to that in (d).

It has justice in it if tax rates continue to vary greatly between years; but it presents practical difficulties in the way of adequate definition and prevention against abuse.

> (f) To permit obligor corporations to deduct as interest taxes paid by them on tax-free covenant bonds.

It is on the theory that the amount of tax paid by the corporation is an addition to its interest payments that the recipient is obliged to return this amount as income, if he follows article 31 of regulations 45. This income thus bears double taxation. Either the corporation should be allowed the deduction or, preferably, the individual should be permitted to treat it as a payment on account of his tax, in accordance with the purpose of the tax-free covenant.

> (g) To remove the possibility of reducing taxable income by the deduction of interest paid on indebtedness incurred for 3¾% Victory notes.

While the interest deduction is proper when the income is subject to surtaxes or excess-profits taxes, obviously there is no ground for permitting it when the securities carried are wholly exempt from tax.

(h) To free from tax interest received by non-resident foreign individuals and corporations not doing business here on funds on deposit here.

This proposal is made as a measure of reciprocity with other countries that will cost us little and will encourage foreign business enterprises to use our banking institutions.

(i) To define the income of foreign individuals and corporations from American sources so as to exclude their profits from manufacture and disposition of goods outside our boundaries, and to determine the American income by a rational method of apportionment.

It appears that foreign producers are equally liable to taxation here on their entire income if, first, their factory is located here but they make sales abroad, and, second, the factory is located abroad and their sales are made through an established office in the United States. This comes about because, in the first case, "sources within the United States" is held to cover manufacture or production, while in the second instance it covers sale.

The case needs only to be stated to justify the amendment. But, while dealing with this subject, we may express the hope that it will be made clearer than it is now how to distinguish between sources within and sources without the United States. How far may the non-resident go and what are the extreme measures he may employ to secure trade here without becoming subject to our income tax? What classes of the voluminous sales made here through salesmen, brokers, commission merchants and similar agencies are legitimately escaping tax? And what are not?

(j) To provide that in case of a return by an individual for a fractional part of a year, "the surtax shall be such part of a surtax computed upon an amount twelve times the average monthly income for the fractional part of the year included in the return as the number of months in such period is of twelve months."

Without some such rule as this, "an individual making a return for a fractional part of a year secures a lower rate of surtax than would be applied to him if he made return for an entire year."

(k) To embody in the law the present regulation that a taxpayer's status at the close of the year determines his personal credits, except that in case of death during the year the individual's status at his decease shall govern.

(l) To make statutory the present rulings, in connection with the excess-profits tax and war-profits tax, to the effect that (1) for a return covering less than twelve months, the limits of $3,000.00 and $20,000.00, respectively, in section 302 (the limited tax section), should be proportionate to the fraction of a year covered, and (2) taxes for the preceding year "may be included in the computation of invested capital only until such taxes become due and payable."

(m) To extend to prior acts the benefits of the 1918 act in respect of (1) the five-year limitation upon amendment of returns and assessment by the commissioner, and (2) the remission of the 5% penalty and lowering of the interest rate to one-half of 1% on all bona fide claims for abatement.

Schedule of Average Percentages of Pre-War Income

Section 311 of the revenue act of 1918 provides that a corporation which

was not in existence during the whole of at least one calendar year during the pre-war period, and therefore received no income during the pre-war period, shall be allowed a specific exemption of $3,000 and—

> "An amount equal to the same percentage of the invested capital of the taxpayer for the taxable pear as the average percentage of net income to invested capital, for the pre-war period, of corporations engaged in trade or business of the same general class as that conducted by the taxpayer, but such amount shall in no case be less than 10 per centum of the invested capital of the taxpayer for the taxable year. Such average percentage shall be determined by the commissioner on the basis of data contained in returns made under title II of the revenue act of 1917, and the average known as the median shall be used."

In pursuance of this requirement of the law, there have been compiled by the treasury department and issued as *Bulletin D. Income Tax,* tables showing the average percentages of pre-war income to pre-war invested capital of general classes of corporations, grouped as to trades or businesses. The bulletin cannot be repeated in full, but can be obtained from the bureau of internal revenue. Corporations entitled to more than the minimum 10% exemption are the exception, as is indicated by the following summary:

CHART

Showing the average percentages of net income to invested capital for the pre-war period and the number of industrial groups of the same class of business under each median.

Industry	Total number of industrial sub-divisions.	Medians or average percentages of net income to invested capital.										
		10% and under.	Over 10% and under 11%.	11% and under 12%.	12% and under 13%.	13% and under 14%.	14% and under 15%.	15% and under 16%.	16% and under 17%.	17% and under 18%.	18% and under 19%.	19% and under 20%.
Agriculture and dependent pursuits..	10	8	....	1	....	1	....	....	....	....	....	....
Mining..........................	17	15	....	1	....	....	....	....	....	1	....	....
Financial: Banks, insurance companies, brokerage institutions....	22	22	....	....	....	....	....	....	....	....	....	....
Common carriers and public utilities	17	16	....	....	....	1	....	....	....	....	....	....
Iron and steel...................	37	35	2	....	....	....	....	....	....	....	....	....
Chemical manufacturing and allied industries....................	9	4	2	2	....	....	1	....	....	....	....	....
Manufacturing foods and food products........................	16	10	4	1	1	....	....	....	....	....	....	....
Leather and leather goods industries	4	1	2	1	....	....	....	....	....	....	....	....
Liquors and beverages............	5	5	....	....	....	....	....	....	....	....	....	....
Metal and metallurgical extractions	15	13	1	....	....	....	....	1	....	....	....	....
Paper manufacturing, printing, bookbinding, publishing.........	13	10	2	....	....	1	....	....	....	....	....	....
Special manufacturing industries...	37	27	2	3	2	....	1	1	1	....	....	....
Stone, clay, and glass industries....	9	8	....	....	1	....	....	....	....	....	....	....
Textile industries................	33	25	1	4	1	....	....	....	....	1	....	1
Lumbering and woodworking industries..........................	12	12	....	....	....	....	....	....	....	....	....	....
Trading and miscellaneous.........	21	18	1	....	....	....	....	....	....	1	....	1
Total......................	277	229	17	13	5	3	2	2	1	3	....	2

TREASURY RULINGS

The only new treasury decision (T. D. 2956) prescribes regulations for the execution of that provision of the revenue act of 1918 (sections 214-A-10 and 234-A-9), by which a taxpayer discovering oil or gas wells after March 1, 1913, may, if the fair market value is materially disproportionate to the cost, value his property at the date of discovery, or within thirty days thereafter, to establish the basis for his depletion calculations (but not for his profit or loss on sale). The relative articles (220 and 221) of regulations 45 are rewritten. "Discovery" signifies demonstration, natural or artificial, of the presence of sufficient oil or gas to warrant expectation of at least returning the capital invested and thus to justify "commercial exploitation." To make certain knowledge possible as to whether the taxpayer's property is a "discovery" or part of a "proven tract or lease," a unit of "proven area" is created. This unit is defined as "a square surface area of 160 acres, having as its center the mouth of a well producing oil or gas." Thus a new well or exposure falling within the boundaries of a square of 160 acres centering on an existing well is not a discovery, but part of a proven tract or lease, and not susceptible to valuation at fair market value. But if it does not overlap other like "areas," the "property" to be valued covers the well, its equipment and contents, out to the limits of the taxpayer's bounding lines, or of the 160-acre unit, whichever is interior. (What might otherwise be deemed a "discovery," however, is inadmissible as such if situated at the center of a compact area of proven land and if surrounding geological evidences indicate in advance that it is bearing land.)

(T. D. 2956, December 2, 1919)

Deductions allowed. Depletion after discovery of oil and gas wells, proven tract or lease. Disproportionate value, article 220 and 221 of regulations 45, amended.

Regulations 45 are hereby amended by substituting for articles 220 and 221 as they now stand the following three articles:

Article 220. Oil and gas wells.

Section 214 (a) (10) and section 234 (a) (9) provide that taxpayers who discover oil and gas wells on or after March 1, 1913, may, under the circumstances therein prescribed, determine the fair market value of such property at the date of discovery or within 30 days thereafter for the purpose of ascertaining allowable deductions for depletion. Before such valuation may be made the statute requires that two conditions precedent be satisfied: (1) That the fair market value of such property (oil and gas wells) on the date of discovery or within 30 days thereafter became materially disproportionate to the cost, by virtue of the discovery, and (2) that such oil and gas wells were not acquired as the result of purchase of a proven tract or lease.

Article 220 (a). Discovery—Proven tract or lease—Property disproportionate value. (1) For the purpose of these sections of the revenue act of 1918, an oil or gas well may be said to be discovered when there is either a natural exposure of oil or gas or a drilling that discloses the actual and physical presence of oil or gas in quantities sufficient to justify commercial exploitation. Quantities sufficient to justify commercial exploitation are deemed to exist when the quantity and quality of the oil or gas so recovered from the well are such as to afford a reasonable expectation

of at least returning the capital invested in such well through the sale of the oil or gas, or both, to be derived therefrom.

(2) A proven tract or lease may be a part of the whole of a proven area. A proven area for the purposes of this statute shall be presumed to be that portion of the productive sand or zone or reservoir included in a square surface area of 160 acres having as its center the mouth of a well producing oil or gas in commercial quantities. In other words, a producing well shall be presumed to prove that portion of a given sand, zone or reservoir which is included in an area of 160 acres of land, regardless of private boundaries. The center of such square area shall be the mouth of the well, and its sides shall be parallel to the section lines established by the United States system of public land surveys in the district in which it is located. Where a district is not covered by the United States land surveys, the sides of said area shall run north and south, east and west.

So much of a taxpayer's tract or lease which lies within an area proven, either by himself or by another, is "a proven tract or lease" as contemplated by the statute, and the discovery of a well thereon will not entitle such taxpayer to revalue such well for the purpose of depletion allowances, unless the tract or lease has been acquired before it became proven. And even though a well is brought in on a tract or lease not included in a proven area, as heretofore defined, nevertheless it may not entitle the owner of the tract or lease in which such well is located to revaluation for depletion purposes, if such tract or lease lies within a compact area which is immediately surrounded by proven land, and the geologic structural conditions on or under the land so inclosed may reasonably warrant the belief that the oil or gas of the proven areas extends thereunder. Under such circumstances the entire area is to be regarded as proven land.

(3) The "property" which may be valued after discovery is the "well." For the purposes of these sections the "well" is the drill hole, the surface necessary for the drilling and operation of the well, the oil or gas content of the particular sand, zone or reservoir (limestone, breccia, crevice, etc.) in which the discovery was made by the drilling and from which the production is drawn, to the limit of the taxpayer's private bounding lines, but not beyond the limits of the proven area as heretofore provided.

(4) A taxpayer to be entitled to revalue his property after March 1, 1913, for the purpose of depletion allowances must make a discovery after said date, and such discovery must result in the fair market value of the property becoming disproportionate to the cost. The fair market value of the property will be deemed to have become disproportionate to the cost, when the output of such well of oil or gas affords a reasonable expectation of returning to the taxpayer an amount materially in excess of the cost of the land or lease if acquired since March 1, 1913, or its fair market value on March 1, 1913, if acquired prior thereto, plus the cost of exploration and development work to the time the well was brought in.

Article 221. Proof of discovery of oil and gas wells. In order to meet the requirements of the preceding article to the satisfaction of the commissioner, the taxpayer will be required, among other things, to submit the following with his return: (a) A map of convenient scale, showing the location of the tract and discovery well in question and of the nearest producing well, and the development for a radius of at least three miles from the tract in question, both on the date of discovery and on the date when the fair market value was set; (b) a certified copy of the log of the discovery well, showing the location, the date drilling began, the date of completion and beginning of production, the formations penetrated, the oil, gas and water sands penetrtated, the casing record, including the record of perforations, and any other information tending to show the condition of the well and the location of the sand or zone from which the oil or gas was produced on the date the discovery was claimed; (c) a sworn record of pro-

duction, clearly proving the commercial productivity of the discovery well; (d) a sworn copy of the records, showing the cost of the property; and (e) a full explanation of the method of determining the value on the date of discovery or within 30 days thereafter, supported by satisfactory evidence of the fairness of this value.

Students' Department

EDITED BY SEYMOUR WALTON
(ASSISTED BY H. A. FINNEY)

AMERICAN INSTITUTE EXAMINATION

NOVEMBER, 1919

In regard to the following attempt to present the correct answers to the questions asked in the examination held by the American Institute of Accountants in November, 1919, the reader is cautioned against accepting the answers as official. They have not been seen by the examiners—still less endorsed by them.

AUDITING

Answer Any Ten Questions and No More

Question No. 1:

Outline in the case of a balance-sheet audit a programme of instructions for verification of cash and bank balances.

Answer to Question No. 1:

If a proper system is in vogue, each day's cash receipts should be deposited in bank not later than the morning of the next business day, and, aside from the petty cash, there should be no cash on hand on the morning when the auditor makes his appearance except the deposit for the previous day. The items of this deposit should be compared with the cashbook entries. This will uncover any substitution of cheques for the purpose of "lapping" or carrying bogus cheques to cover a shortage. One of the uditor's staff should accompany the concern's messenger when he makes the deposit to be sure that it reaches the bank unchanged.

When the petty cash fund is comparatively small a verification of the balance at the time of the audit is usually sufficient. It would hardly be worth while to scrutinize all the transactions between the closing date and the date of the audit. If the balance is large, as in the historical English case, in which the balance was $4,000, the fund is not petty cash at all, but is a working fund or office cash, which should be subject to the same rules of audit as those which apply to the general cash when the receipts are not all deposited.

If a proper system is not followed, and each day's receipts are not deposited intact, the items constituting the cash balance should be very closely scrutinized. Cheques should be compared with the cashbook entries which they represent. If there are customers' cheques in the cash drawer for which no entries are to be found on the cashbook, it is evidence that the credits for them have been held out and they are there to take the place of cheques belonging to the credits of the day, held out in a similar manner the day

before—in other words, it is evidence of "lapping." As these cheques do not belong in the cash until the credits for them appear on the cashbook, the cash is short to that extent.

The cash should all be in bankable funds and should not contain any so-called cash items. Due-bills of officers and employees should be taken out and charged to an account of "salary advances." This applies to bank cheques unless they are good and can be deposited at once. It should be noted especially whether or not any of the due-bills are greater than the salaries due the signers for the proportionate time elapsed since the last pay day.

The entries between the date of the balance-sheet and that of the audit should be scrutinized and the additions verified in order that the balance on hand as it appears on the balance-sheet may be shown to be correct.

With regular clients it is well to arrange to have the cash verified when possible on the day when the balance-sheet is dated.

The balance in bank should not be accepted as shown by a bank statement or passbook in the hands of the cashier. The auditor should obtain an independent statement direct from the bank, preferably a new statement balanced to date, as this will give a trustworthy basis for the list of outstanding cheques.

When a person is treasurer of more than one concern, the bank account of each should be kept in its own name. When an accountant is auditing one of the concerns, he should also verify the cash balance of the others. A case is on record in which John Doe was treasurer of two building and loan associations the fiscal periods of which ended in different months. He opened a bank account as John Doe, treasurer, and succeeded in making the same balance represent both associations, until a professional auditor requested him to account for both cash balances at the same time.

Question No. 2:

Outline a system of internal check for a wholesale grocery concern doing a business of $3,000,000 a year, with about 2,000 customers. The system should co-ordinate with an annual audit by professional accountants.

Answer to Question No. 2:

The general principle to be followed is that no one person shall be in complete control of any important part of the business, but that the work of each shall be subject to check by being made to fit in with that of others or be supervised by others.

Sales invoices should be made in duplicate, so that the invoice which goes to the customer shall be an exact copy of the one filled in the shipping room. The duplicate, including the prices, should be approved by the selling department; the filling of the order should be certified by those who assemble the goods and by the packers; and the shipment should be certified by the shipping clerk. The extensions should be made by someone in the selling department and verified by a bookkeeper. Each invoice should be numbered and account should be made for all numbers. The auditor need make tests only of a few parcels of consecutive numbers. Not only must the person omitting

to initial an invoice be held accountable, but also all others who follow him, as no one should approve an invoice unless it contains all required approvals preceding his own.

A controlling account must be kept on the general ledger with each of the customers' ledgers, if there is more than one. It is not necessary to go into details in regard to the advantages of this requirement.

Cash receipts should be recorded by more than one person. The best plan is to have some one in the office of the secretary open the mail, and on a typewriter make three copies of the remittances received on a separate blank for each customer's ledger, giving the name and address, the total of the account paid, the deductions in appropriate columns for cash discount, freight, shortage or any other allowance and the net cash. The original will go to the bookkeeper, who will post direct from the blank, the duplicate together with the remittances will be given to the treasurer, and the triplicate will be retained by the secretary. The blanks will be added by each of the three independently and the totals will be compared. Each of them will file his copy under his private lock. The treasurer need enter only the totals for the day in his cashbook, and will submit to the secretary evidence of the deposit of the funds in bank to be compared with his record. The auditor need only see that the funds called for by the secretary's blanks have been accounted for by the treasurer and by the credit of the total to the controlling account.

Vouchers for payments should be accompanied by invoices from creditors, properly certified payrolls, etc. They should be checked as to extensions and additions, and those for purchases should be approved as to price by the person authorizing the purchase and as to quality and quantity by the persons receiving the goods. They should finally be approved for payment by an officer authorized to do so, and payment should be evidenced by the cheque number of the treasurer.

Question No. 3:

A corporation owns nearly all of a block of land. The remaining portion is purchased subject to an existing lease. The corporation sets aside out of surplus an amount believed to be sufficient to extend its plant over the entire block at the expiration of the lease. What ledger title should be given to the amount set aside, and how should the amount be set up on the balance-sheet?

Answer to Question No. 3:

It is apparently the intention to say that the actual money is set aside. If so, it would be charged to "plant extension fund," which would appear as an asset on the balance-sheet. It would not affect the credit side of the balance-sheet at all, unless it were desired to call the attention of stockholders and others to the fact that the corporation was retaining some of its profits in the business. In this case the surplus account would be sub-divided to show as follows:

Surplus

Appropriated for plant extension............	xx.xx	
Free for dividends	xx.xx	
Total surplus		xx.xx

Question No. 4:

In making "detailed" audits some auditors verify all postings and footings of general and subsidiary ledgers, even though controlling accounts are kept. State reasons for and against such procedure.

Answer to Question No. 4:

All postings and footings that affect fixed asset accounts should be verified. There are relatively few of these, and the work of verifying them is justified by the danger that the profit and loss results may be affected by an accidental or intentional inclusion in fixed assets of items that are really expenses. The only advantage of verifying nominal accounts in detail is that any posting to a wrong operating account would falsify the detailed statement of cost and profit, but such errors would usually be discovered by judicious tests, if they were at all important.

One advantage of a complete verification of postings and footings is that errors in a trial balance may thus be discovered. However, it is not the province of an auditor to put books into balance, and if he undertakes to do it as part of his audit he may find that the bookkeeper will not over-exert himself to discover such errors, but will rely on the auditor to find them.

The advantage gained by verifying postings and footings of a customer's ledger is the chance of discovering possible entries in wrong accounts, which is something that the auditor should not agree to do. As long as the trial balance of the subsidiary ledger shows that the total balances agree with the balance of the controlling account, the auditor may be satisfied that all entries have been posted to customers, and he may safely leave it to the one who is overcharged or undercredited to object. If no controlling account is kept, the auditor can easily build one up for himself.

In general, except where fraud is strongly suspected, there is little use in employing expensive time in detailed checking when proper tests will completely satisfy the auditor that the accounts are correct.

Question No. 5:

Describe three methods of calculating depreciation and suggest cases in which each might be feasible or desirable.

Answer to Question No. 5:

1. A fixed per cent on the diminishing value. Usually the best in the case of assets which call for increasing repairs as the assets gradually wear out and will have some scrap value when they are finally discarded.

2. Sinking fund method by which the money necessary to replace the asset will be on hand at the end of its estimated life. This method is seldom used, but it may be advisable when applied to an entire plant or section of a plant that will have to be replaced as a unit when worn out.

A modification of the usual sinking fund method may be adopted by contributing to the fund each year a fixed per cent of the original cost. The interest on the fund is credited to reserve for depreciation, reducing the amount to be charged as depreciation each year to that extent. As the in-

terest contributions to the fund increase, the depreciation charge gradually diminishes, thus equalizing in some degree the depreciation and repairs expense.

3. Production method. By this method depreciation is calculated in proportion to the output of an asset. This method is especially applicable in the case of an asset that is not in continuous or regular use, such as an expensive machine which has special functions which are exercised only when a certain class of work has to be performed at irregular times.

Question No. 6:

The federal reserve board stipulates that paper to be eligible for rediscount must be supported by a statement of the borrower showing a satisfactory excess of quick assets over current liabilities.

(a) For such purpose what items are

1. Quick assets?
2. Current liabilities?

(b) A man owns 100% of the stock of each of two corporations. The business of one corporation is leased to the other, so that the lessee corporation has title to all quick assets. What kind of a statement should be submitted?

Answer to Question No. 6:

(a) 1. Quick assets—			
Cash on hand and in bank..................			xxx
Notes receivable of customers on hand (not past due)............................		xxx	
Notes receivable discounted with guaranty..		xxx	
Accounts receivable, customers' (not past due)		xxx	
Notes receivable, customers', past due (cash value $———).........................		xxx	
Accounts receivable, customers', past due (cash value $......)..................		xxx	
		xxxx	
Less—			
Reserve for bad debts......................	xxx		
Reserve for discounts, etc..................	xxx	xxx	xxx
Inventories—			
Raw material		xxx	
Goods in process		xxx	
Uncompleted contracts	xxx		
Less payments on account..................	xxx	xxx	
Finished goods		xxx	xxx
Other quick assets, described...............			xxx
Total quick assets			xxxx

(a) 2. Unsecured bills and notes—		
Acceptances for merchandise or material purchased	xxx	
Notes given for merchandise or material	xxx	
Notes to bank for money borrowed	xxx	
Notes sold through brokers	xxx	
Notes given for fixed assets	xxx	
Notes to stockholders, officers or employees	xxx	xxx
Unsecured accounts—		
Accounts payable for purchases (not yet due)	xxx	
Accounts for purchases (past due)	xxx	
Accounts due to stockholders, officers or employees	xxx	xxx
Secured liabilities—		
Notes receivable discounted guaranteed	xxx	
Customers' accounts assigned	xxx	
Obligations secured by liens on inventories	xxx	
Obligations secured by securities pledged	xxx	xxx
Accrued liabilities (wages, taxes, etc.)	xxx	
Other current liabilities (described)	xxx	xxx
Total current liabilities		xxxx

(b) The statements to be submitted should include a consolidated profit and loss statement and a consolidated balance-sheet, made up in the ordinary way, following the classification of accounts prescribed by the federal reserve board.

Question No. 7:

In auditing the accounts of a corporation for the first time you find that during prior years the federal income-tax returns (which had not been audited by the government) were, in your opinion, inaccurate and that a substantial additional amount of taxes is due to the government. Your client claims that the returns were correct, having been prepared under the advice of counsel. You believe that the client is acting in good faith. What, if anything, would you recommend? What bearing, if any, would the facts have upon a balance-sheet to be certified by you?

Answer to Question No. 7:

I should recommend that the matter be referred to the collector of internal revenue, stating the exact facts, and especially calling attention to the fact that the returns had been made in good faith and under advice of counsel. If a representative of the department, after examining the accounts, should find that the taxes paid had been insufficient, the corporation

would be in a much more favorable position than if it had waited until the department itself discovered the inaccuracies.

In the balance-sheet that I would certify I would include a reserve for taxes large enough to cover the additional amount that in my opinion it will be necessary to pay.

Question No. 8:

Describe a proper arrangement of audit working papers:
(a) During the audit;
(b) When ready for filing.

Answer to Question No. 8:

(a) The papers should be so arranged that they can be readily used for reference. All paper should be of a uniform size. Each sheet should be devoted to a specific subject, and no other subject should appear on that sheet. It is better to waste nine-tenths of a sheet than to fill it up with matter relating to a subject about which the rest of the information is to be found some distance away.

If there is a regular schedule of instructions in regard to the conduct of the audit, the papers should be arranged in the order of that schedule. If not, the order in which the papers are kept is not important, provided that all the members of the staff use the same arrangement in all audits. The object to be gained is easy access to any paper to which it is desired to refer. It is not sufficient that each senior should adopt his own peculiar arrangement, because others may have to refer to the papers, especially the principal who is examining the report before signing it.

(b) For permanent filing the best arrangement is probably one that begins with the final balance-sheet, as contained in the report to the client. The papers relating to each item would follow in the order of the items on the balance-sheet, beginning with the first asset and ending with the last liability. Then would come the profit and loss statement and the papers relating to it in the order of the items on the statement. Each working sheet should be distinctly headed with the title of the subject under consideration.

Question No. 9:

In the audit of the accounts of an instalment house with 20,000 open accounts, where weekly payments are due and made in currency, how would you verify the outstanding balances?

Answer to Question No. 9:

To handle such a large number of accounts it would be necessary to have numerous ledgers, probably twenty or more. The accounts should be divided alphabetically among these ledgers, and there should be a controlling account for each one, either on the general ledger itself or in a subsidiary memorandum book. Each ledger can be balanced to its controlling account. To verify the individual accounts it would be sufficient to make numerous tests. As more than 3,000 payments must be made on the average each day there must be several cashiers. The best plan would be to station juniors in as

many cashiers' cages as possible, who would endorse the customer's contract for the cashier and at the same time note the number on a sheet with columns for the names and numbers of customers who were exactly paid to date, those who were delinquent and how much, and those who might have paid in advance, and how much. Comparing these memorandums would give a sufficient basis for verifying the active accounts. For those badly delinquent the collection department should have correspondence in which the amount due is demanded. If there are no letters objecting to the accounts, it is reasonable to suppose that they are correct. If these tests show that the accounts examined are correct, it is sufficiently certain that all the rest of them are.

Question No. 10:

You ascertain that a client owes a substantial amount for assessments against local benefits. No liability therefor appears on the books. How would you proceed to determine the amount due? How would you reflect such amount on the balance-sheet?

Answer to Question No. 10:

There would almost certainly be in the office a statement of the special assessments showing the total amount and the instalment now due. In any event, inquiry of the special assessment office of the municipality would disclose the existence of such assessments and all the particulars in regard to them.

If the assessments were levied for improvements that are entirely new the amount due should be charged to real estate. If for the replacement of similar items it should be charged to real estate expense, unless there is a reserve to which it could be charged. As the future will be benefited by the improvements, the expense need not be charged to profit and loss all in one year, but may be spread over several years. In any event the portion due and unpaid should be carried as a current liability.

Question No. 11:

On March 15, 1919, you received instructions to audit the accounts of a large corporation whose fiscal year ended December 31, 1918. The corporation has subscribed for Liberty bonds through various banks, and at December 31, 1918, certain subscriptions had been paid in full and delivery of the bonds accepted, while in other cases part payments only had been made. Bonds have also been delivered to employees who have subscribed and paid for them in full. Describe how you would proceed to verify the asset shown on the balance-sheet at December 31, 1918, representing bonds on hand and part payments made on subscriptions, so that you can give an unqualified certificate to your clients as of December 31, 1918.

Answer to Question No. 11:

There would probably be three accounts kept—bonds, representing bonds on hand; employees, being amount due on bonds subscribed; and bonds subscription, representing the liability for bonds subscribed but not delivered. When an employee made his last payment on his bond, the bond would be delivered to him and an entry would be made charging bonds subscriptions

and crediting bonds. Entries of this character between January 1 and March 15 should be checked with the receipts given for the bonds when delivered. This will account for some of the bonds that were on hand on December 31. The others should be on hand and be verified by count on March 15. The entries of cash to the credit of employees since December 31 should either be checked or fully tested, and, if possible, a number of the subscription contracts should be called in for comparison with the records. This cannot always be safely done, as ignorant employees are liable to be suspicious if asked to show their contracts. In the absence of suspicious circumstances the auditor may have to be satisfied with the examination of those contracts only which appear to be in arrears.

Question No. 12:

There is no question with this number on the official papers.

Question No. 13:

In making an audit of a trust estate you find the following amounts treated as income:

(a) Profit on retirement of $10,000 bonds paid off at par plus 5%.

(b) Dividend of $500 due prior to decedent's death.

(c) Interest on $10,000 note for half-year to June 30th (testator having died on March 31st).

(d) Dividend of $1,000 for half-year to June 30th received July 1st.

What criticism, if any, would you advance in regard to these credits?

Answer to Question No. 13:

(a) Any excess of the amount realized above the inventory value of an asset is an increase in the corpus of the estate and should be credited to increase in assets and eventually to the corpus or capital. The 5% collected on the bonds is not income but is an increase in assets.

(b) Dividend declared prior to death of decedent, whether due or not, is an asset at that time and should have been included in the inventory. It should now be credited to new assets or direct to the corpus.

(c) The interest accrued on March 31st should have been included in the inventory. As this was not done, half the interest collected should be credited to the corpus and half to income.

(d) In this country it is generally considered that dividends are not to be considered until they are declared. The whole of the dividend would therefore be credited to income. In England it would be divided between corpus and income.

Bonus Stock

Editor, Students' Department:

Sir: If you will give me your opinion on the following I will greatly appreciate it:

Smith and Jones are going into business, and are to incorporate with an authorized capital stock of $35,000.00—par value of shares $100.00; $10,000 preferred and $25,000 common.

Smith and Jones subscribe for $10,000 each (total $20,000) of the common stock and pay cash for it. This leaves unissued or unsubscribed of the common stock $5,000.00.

They now offer to Brown all the preferred stock at par $10,000, and issue to him as a donation the balance of the common stock, $5,000.00, with the understanding that Brown is to pay for his stock in cash at once.

My understanding has always been that stock donated should be stock that has once been paid up and returned as a gift by some stockholders, or bought back by the corporation. In the above case this $5,000.000 has not been purchased, and the stock at present is worth only about $86.00 a share.

In order to carry these entries through the books, it will, as I see it, be necessary to set up an account "donated stock account" on the debit side of the ledger. Will you advise me if this can be done legitimately?

Again, suppose it is done, and in the first year enough profits from operations are made to pay the preferred dividend and wipe out this donated stock account by charging it against the surplus, provided sanction from the stockholders and directors is obtained, would the $5,000.00 donated stock then be legally considered paid in full?

Yours truly,
N. C. L.

You are confusing donated stock with treasury stock. The latter is correctly described by you as stock that has once been sold and has since been reacquired by the company through gift or purchase. It may be donated by stockholders to the company; but in the case of the stock given to Brown, it is donated by the company to the stockholder, which is a very different proposition.

The proper entry when this stock is given to Brown is:

Bonus to preferred stockholders...............	$5,000.00	
Common capital stock........................		$5,000.00

The stock is not paid up and Brown would be liable to creditors for it. However, if the bonus account is afterward charged off against surplus, it would act as a payment in full of the common stock issued to Brown. It is equivalent to making a special dividend to Brown to apply on his stock, and he would be relieved from liability.

Unissued stock on which nothing has been paid may be issued in this way as a bonus in most of the states, but when it is it should be offset by an account called bonus and not discount on stock.

Advance Royalties

Editor, Students' Department:

Sir: I have a problem on which I would like to have a little assistance. X invents and gets a patent on a certain article and spends some little time and money designing, manufacturing and also patenting two special machines for the production of this certain article and makes an agreement with Y as follows:

X agrees to furnish Y at his plant two special machines capable of a certain production per hour, and after delivery, demonstration and acceptance of said machines Y is to reimburse X for the cost of the machines and pay an extra $5,000.00 cash. X grants Y the right, liberty and license to make, use and sell the patented article for three years under X's patents for a guaranteed royalty of $5,000.00 per year to X. After three years the contract is to be renewed at option of Y for successive periods of two years each.

The problem which bothers me is this: What is to be done with the

$5,000.00 cash? It seems to me that it does not represent anything tangible, as Y reimburses X for the cost of the machines and thereby is only allowed to charge equipment account with such cost. Y does not care to show this amount on his books under patents, good will, etc., but would like if possible to charge it all at once to profit and loss. If that is not proper, would it be right to spread this amount over a period of three years, charging a certain part to every month's operation?

Yours truly,
SUBSCRIBER.

The transaction described really amounts to paying a royalty of $5,000.00 in advance and $5,000.00 a year for three years or more. As there is no certainty that the contract will be renewed at the end of the third year, it is better to deal with it as a royalty of $20,000.00 for three years, or thirty-six months, which is $555.55 a month.

The first $5,000.00 should be charged to "royalties paid in adpance." Each month royalties should be charged as an operating expense with $555.55. The offsetting credits would be $138.88 to "royalties paid in advance" and $416.67 to X. When further payments are made to X, his account will be charged.

The letter does not say so, but it is probable that the annual payment of $5,000.00 is a minimum price. If Y's production calls for more than $5,000.00 royalty in the current year, the figure $416.67 would have to be correspondingly increased. Since production cannot be foretold, it does not seem possible to do anything except to spread the original $5,000.00 evenly over three years. In any event there is no reason for charging it all off the first year.

DISTRIBUTION OF OVERHEAD

Editor, Students' Department:

SIR: May I trouble you to answer the following for me?

(1) Ours is a manufacturing plant, divided into cabinetmakers', machine-hands', finishers' and carpenters' departments. In calculating the overhead, which we usually do at the end of the year (establishing the overhead rates for the ensuing year), the expenses for the previous year are apportioned in the proper ratio to the departments, dividing by the total working hours of each department for the year. This gives us so many cents an hour for a cabinetmaker's overhead, so much for a machine-hand's, and so on. A difficulty arises because, if in the following year the number of hours worked has greatly increased or decreased, the calculated overhead would be so much more or less than the real overhead cost. In addition, salaries and other expenses may have increased during the year. As we are keeping the cost of each job and make a good many of our jobs on a time-and-material-cost basis, you can readily see how much harm such a system may cause, there being the danger of either overcharging or undercharging, one being as bad as the other. We could not very well distribute the overhead expenses weekly, as the costs on some of the jobs are required almost daily. Besides, there are many months which may have a heavier burden of expense because some of the general expenses happen to have been incurred in those months. Because of these heavier burdens on some of the months the cost of the same article to the same customer may differ in one month from the cost in another. What manner of distributing the overhead would you suggest?

(2) Should expenses, such as repairing a burned-out motor or loss on trading of a machine or replacing it be added to the overhead cost? If so, what months should bear the burden?

(3) Have you any knowledge of a special lumber calculating machine which would reckon in feet or in inches items like the following:

90 p. &' 6" x 3½" x ⅞

(4) Where shall I look for information in regard to profit-sharing and bonus plans?

Yours truly,
H. G.

(1) A fixed distribution rate covering the year is preferable because of giving an even normal cost throughout the year, but when unusual changes in the rate occur, as has been the case during the abnormal conditions of the past few years, it is sometimes necessary to change the rate from time to time to suit the changed circumstances. If an account "manufacturing expense" is carried and charged with the expense incurred each month, and another account, "manufacturing expense distributed," is credited with all expense distributed on factory orders during the month, the difference between the two accounts will represent the unabsorbed or overabsorbed expense during the period. The unabsorbed expense may be distributed over the factory orders for the month by means of a supplementary rate, but if most of the orders have already been billed on a cost-plus basis, this would not help as far as those orders were concerned. The alternative would be to increase the rate for the succeeding month or months. When it is possible to do so, an estimated rate might be fixed in advance for the month to cover increasing expenses or decreasing production. Care must be used in regard to seasonal fluctuations, as it is possible for a fixed distribution rate to be too high at some seasons and too low at others, but normal for the year as a whole. When estimates indicate that such will be the case it is better to use the fixed rate.

(2) Repairs should be allocated to the month by estimating the total annual amount and charging operating expense and crediting reserve for repairs with one-twelfth each month. The actual cost of the repairs would, of course, be charged to the reserve account. The same thing will apply to depreciation. Replacements should be charged to depreciation reserve. If a machine is sold or exchanged for a new one, the cost value of the old machine should be credited to machinery, and the offsetting debit should be accounts payable for the amount allowed for it, depreciation reserve for the amount of depreciation already charged off and surplus for any shortage.

(3) Lumber trade papers would be able to answer as to calculating machines better than we can.

(4) Bulletin No. 208, *Profit Sharing in the United States,* issued by the United States department of labor, bureau of labor statistics, can be obtained for twenty cents from the superintendent of documents, government printing office, Washington. It discusses the profit sharing plans in use in this country and gives a list of books, pamphlets and articles in periodicals dealing with the subject.

New York University Alumni

The School of Commerce Alumni Association of New York University has become amalgamated with the alumni associations of other colleges and schools of the university in a General Alumni Association. The secretary of the association is Howard F. Langland, 512 Fifth avenue, New York.

Harris, Allan & Company announce dissolution of partnership. Errol Kerr, J. Thompson Cook and William Harris, partners of the former firm, announce the formation of a partnership under the firm name of Harris, Kerr & Co., with offices at 347 Madison avenue, New York.

Robert Hale Tuttle and Ethan Allen Whitney announce the formation of a partnership under the firm name of Tuttle, Whitney & Co., with offices in Central building, Minneapolis, Minnesota.

Searle, Nicholson & Lill and Francis Oakey & Co. announce consolidation of their practices under the firm name of Searle, Nicholson, Oakey & Lill, with offices at 52 Broadway, New York.

Amos D. Albee, Son & Co. (Boston) announce that Richard L. Harper has retired from the firm on account of ill health. The practice will be continued by the remaining partners under the same firm name.

Frank Tupper and H. C. Oberist announce the formation of a partnership under the firm name of Tupper & Oberist, with offices at 306 Main street, Worcester, Massachusetts.

Emerson E. Rossmoore and Leslie Abbott announce the formation of a partnership under the firm name of Rossmoore & Abbott, with offices at 217 Broadway, New York.

Robert Douglas & Co. (Boston) announce that Philip F. Clapp has become a member of the firm, as of September 1, 1919.

A. S. Hansen & Co. announce the opening of an office in Tacoma, Washington, at 410 National Realty building.

Harry L. Oppenheimer & Co. announce the opening of offices in the Railway Exchange building, St. Louis, Missouri.

William P. Husband announces the opening of an office at 212 Fidelity Trust building, Portland, Me.

Ernest J. Pirman announces the opening of an office at 27 East Twenty-second street, New York.

Marwick, Mitchell & Co. announce that Albert J. Watson has become a member of the firm.

Fedde & Pasley, New York, announce that Thomas F. Conroy has been admitted to the firm.

Homes & Davis, New York, announce that Louis Weinstein has been admitted to the firm.

Lincoln G. Kelly announces the reopening of offices in the Walker Bank building, Salt Lake City.

August N. Brissman announces the opening of an office in the Berglund building, Moline, Illinois.

The Safeguard Account Co. announces removal of its New York office to 110 West 42d street.

Morris Rogin announces the opening of an office at 1328 Broadway, New York.

Robert Le C. Hovey announces the opening of offices at 160 Broadway, New York.

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Federal Income-Tax Law and Regulations versus New York State Law and Regulations

By Eugene M. Travis

Notes on differences which must be borne in mind in the preparation of returns of personal incomes

The New York state income tax law is substantially the same in its provisions concerning the determination of income as the provisions of the federal law. The state income tax regulations were also made to agree with the similar federal regulations so far as possible. Nevertheless, there is a sufficient number of differences to keep the accountant alert and wary. These differences are referred to in this article. It is not the purpose of this article to discuss the merits of the respective differences but merely to call attention to them.

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18. Personal exemptions.
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Nonresidents

21. Nonresidents.

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22. Forms for residents.
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24. First fiscal year returns.
25. Deducting and withholding.
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27. Due date for filing fiscal year returns.

Gross Income Defined: Inclusions

1. *Personal service compensation.*

Compensation for services performed prior to January 1, 1919, is not taxable under the state law and regulations even though received in 1919. Under the federal law, it must be included in the return.

2. *Salaries of government, state and municipal employees.*

The federal law exempts from tax the salaries of state and municipal employees, but taxes the salaries of federal employees, excepting that up to $3,500 of the compensation of persons in the

naval or military service is exempt. The state law provides that federal salaries are exempt from tax but taxes salaries paid by states and municipalities. "Municipalities" in both instances includes all political subdivisions of the state.

3. *Interest income.*

Interest earned or accrued prior to January 1, 1919, is not taxable under the state law and regulations even though received in 1919. Under the federal law, it must be included in the return. The state law exempts from taxation interest on bonds on which the investment tax was paid between June 1, 1917, and May 14, 1919, during the period of years for which such tax shall have been paid. Interest on these securities is, of course, taxed under the federal law.

4. *Interest on government, state and municipal bonds.*

The federal law exempts from taxation interest income from all state and municipal bonds and certain federal bonds. There are also partial and qualified exemptions on certain issues of Liberty bonds. The state law exempts *in full* interest from all federal bonds and obligations and those of the state of New York and municipalities of New York state but taxes the interest on bonds and obligations of other states and their municipalities.

5. *Interest on tax-free-covenant bonds.*

Taxpayers receiving interest on tax-free-covenant bonds are entitled to a credit against their tax of two per cent of the amount of interest, as the obligor corporation paid a tax of two per cent to the federal government. The state law does not provide for the payment of tax at the source by the corporation; so obviously there is no such credit allowed on the state return.

6. *Dividends.*

Dividends are exempt from the normal tax under the federal law. There is no such exemption under the state law, and all dividends are taxed in full.

Dividends received in 1919, which were declared payable to stockholders of record in 1918, are not taxable under the state regulations. They must be included in the federal return.

7. *Stock dividends.*

In the preparation of a federal return, the year in which the earnings distributed by the corporation were accrued is of significance in certain cases, but it is of no importance under the state law and regulations.

Stock dividends are taxed under the state law as they are under the federal law except that the federal law and regulations provide that they shall be returned as income in the amount of the earnings or profits distributed, usually equal to the par value of the stock distributed. Under the state law and regulations, stock dividends are income in the amount of the value of the stock received as a dividend.

It should be borne in mind also that the *Macomber v. Eisner* case is not controlling on the state, as the question of the right of the state to tax stock dividends, if raised at all, must be decided on different grounds than those which will control the decision under the federal tax law.

8. *Personal service corporations.*

The federal law classes personal service corporations with partnerships and taxes the stockholders of such corporations on their distributive share of the income of such corporations in the same manner as if they were members of a partnership. The state law has no such provision. Personal service corporations are not distinguished from other corporations. This leads to the following substantial differences:

(1) A personal service corporation must file a partnership return under the federal law, but is not required to file a return under the state income-tax law. [It is, however, obliged to file a return with the state tax commission under the corporation franchise tax law.]

(2) Stockholders will return to the federal government their distributive share, whether received or not, of the income of the corporation, but are not required to report that on the New York state return.

(3) Stockholders are not required to report dividends received from a personal service corporation on their federal return but are required to report such dividends on the state return.

Gross Income Defined: Basis for Determining Gain or Loss

9. *Sales of property.*

The federal law provides that in computing loss or gain from the sale or other disposition of property, the cost or value on March 1, 1913, if acquired prior thereto, must be taken as the basis. The state law provides that the basis is cost or value on January 1, 1919, if acquired prior to that date.

10. *Gifts of property.*

The federal regulations do not provide that any loss or gain results from the gift of property to others. The state regulations provide that a gift is an "other disposition" of property within the meaning of the statute. If one gives property to another, he suffers a loss or realizes a gain, depending upon whether or not the value of the property at the time of gift is greater or less than cost (or value on January 1, 1919, if acquired prior thereto).

Deductions Allowed

11. *Interest deductions.*

The rules for the deduction of interest payments (or accruals) are different under the two laws. The federal rule is that all interest paid or accrued may be deducted except interest on indebtedness incurred or continued to purchase or carry securities, such as municipal bonds, the interest upon which is exempt from tax, the exception not applying to certain issues of Liberty bonds. The state rule is that the taxpayer may deduct that proportion of interest paid which his gross income (that is, income from sources taxable under the state law) bears to his total income.

12. *Traveling expenses.*

The definition of allowable traveling expenses is somewhat more liberal under the state law than under the federal law. The state regulations define allowable traveling expenses as including railroad fares, meals and lodging, if the trip is undertaken for business purposes. The federal regulations provide that meals and lodging even on business trips continue to be living expenses and are not deductible in computing net income.

13. *Deduction of New York state income tax.*

The amount of income tax paid to the state of New York is an allowable deduction on the federal return but not on the state return. [Note, however, that this deduction can not be claimed under the federal return, except in the year of payment, unless accrued on the books of the taxpayer].

14. *Replacement fund for losses.*

The provisions of federal articles 49-50 with respect to replacement fund for losses have no counterpart in the state regulations.

15. *Depreciation and depletion.*

The regulations under both laws are the same on this subject except that the value of property on January 1, 1919, instead of that on March 1, 1913, must be used as the basis for determining these deductions under the state law. Likewise, the discovery provision under the state law with respect to deductions for depletion refers to discovery on or after January 1, 1919, and not to discoveries on or after March 1, 1913, as is the case under the federal law.

16. *Amortization.*

The provisions of the federal law, section 214a (9) and federal articles 181-188 inclusive with respect to deductions for amortization of war plants and facilities have no counterpart in the state law or regulations.

17. *Charitable contributions.*

The definition of corporations and organizations, contributions to which are deductible, is substantially the same under both laws except that deductions are allowable under the New York law only if made to corporations and associations incorporated by or organized under the laws of the state of New York.

Credits

18. *Personal exemptions.*

The federal regulations provide that a taxpayer's status on the last day of his taxable year determines his exemption for the year. The state regulations contain no such provision, as status at any

time during the year will justify a claim for exemption. For instance, if a taxpayer's wife dies during the year, he will be entitled to a married person's exemption of $2,000 under the state regulations, but only to the $1,000 exemption of a single person under the federal regulations.

19. *Credit for income taxes paid by a nonresident.*

The state law has a "reciprocity" provision by which residents of a state that imposes an income tax are entitled to a credit for taxes paid to the state of their residence on income earned in the state of New York. That provision of the law is of academic interest only at the present time, as the comptroller has not ruled that any state has the proper reciprocal provision which entitles its residents to this credit.

20. *Credit for income taxes paid to foreign governments.*

The federal law provides that a citizen of the United States is entitled to a credit against his tax of the amount of income taxes paid by him to a foreign government on income earned abroad. There is no such provision in the state law, nor are such income taxes allowable deductions under the state law.

Nonresidents

31. *Nonresidents.*

The state law taxes nonresidents and nonresident estates and trusts only on their income

(a) From property owned within the state of New York.
(b) From a business, trade, profession or occupation carried on within the state of New York.

It does not tax nonresidents on their income from annuities, interest and dividends unless they are part of the income of a business, etc., carried on within the state of New York. A nonresident's state return may, therefore, be totally different from his federal return.

The state income tax regulations for nonresidents have to be studied in order to determine the taxability of a nonresident. If a nonresident derives income from a business, trade, profession or occupation that is carried on both within and without the state,

special attention must be paid to the articles of the regulations dealing with the apportioning of such income. For the convenience of taxpayers, lawyers and accountants a bulletin is being prepared containing the regulations affecting nonresidents.

Returns

22. *Forms of returns for residents.*

The federal government has two forms of returns:

(1) Form 1040a—for incomes of not more than $5,000.

(2) Form 1040—for incomes of over $5,000.

New York state has two forms of returns for residents, but they divide on entirely different bases, viz:

(1) Form 200—for individuals whose incomes are derived entirely from salaries, interest, dividends, partnerships, estates and trusts, regardless of the amount of net or gross income.

(2) Form 201—for individuals having other sources of income such as

- (a) Income from business or profession (except as a partner).
- (b) Income from rents and royalties.
- (c) Profits from the sale or exchange of stocks or bonds.
- (d) Profits from the sale or exchange of lands, buildings and other property regardless of the amount of net or gross income.

23. *Forms of returns for nonresidents.*

Two forms of returns are provided for nonresidents:

(1) Form 200a—for nonresidents whose income from sources within the state is derived entirely from salaries, partnerships, estates and trusts, regardless of the amount of gross or net income.

(2) Form 201a—for nonresidents having income from other sources within the state of New York such as

- (a) Income from business or profession (except as a partner).
- (b) Income from rents and royalties on property located within the state of New York.

(c) Profits from sale or exchange of lands, buildings or other property located within the state of New York.

Nonresidents who carry on business both within and without the state of New York are required to apportion their income; and the state income-tax regulations and the instructions on the forms of returns must be studied in the making of this apportionment. So also partnerships which (a) have a nonresident member and (b) carry on business both within and without the state and estates and trusts which (a) have a nonresident beneficiary and (b) carry on business both within and without the state must likewise apportion their income so as to exhibit the proportion earned from sources within the state of New York.

24. *First fiscal year returns.*

In the preparation of first returns under the state law for individuals with fiscal years, the return of income must be made for the completed fiscal year and prorated according to the number of months in the fiscal year in 1919 and the tax paid on such proportion. The personal exemption must be correspondingly apportioned. In most cases, the federal returns for those individuals will be full year returns; so that while the federal tax will be computed on the total income for the year, the state tax will be computed on only that portion of it earned in 1919.

25. *Deducting and withholding at source.*

The provisions of the state law on the subject of deducting and withholding have no counterpart in the federal law. Employers are required to deduct the tax from compensation for services rendered within the state of New York paid to employees, who

(a) receive $1,000 or more during the calendar year; and

(b) do not file a certificate showing residence within the state of New York.

26. *Returns of information at source.*

The regulations in regard to information at the source are substantially the same under both laws except that the state law requires no certificates of ownership with respect to payments of

interest on corporate bonds, but it does require returns of payments of interest on registered bonds. The state law does not require information slips for each member of a partnership and for each beneficiary of an estate or trust as is required under article 1073 of the federal regulations. The provisions of the federal law with respect to the return of information as to payments to nonresident aliens and with reference to foreign items have no counterpart in the state law or regulations; and, furthermore, the state regulations require no returns of information respecting payments to nonresidents of items which do not constitute taxable income under the state law.

27. *Due date for filing fiscal year returns.*

The federal law and regulations provide that fiscal year returns shall be filed on or before the fifteenth day of the third month following the close of the fiscal year. The state law contains no special provision with respect to fiscal year returns and the provision that returns shall be made on or before the fifteenth day of March of each year for the taxpayer's last preceding taxable year applies to fiscal year returns as well as to calendar year returns, so that a return for a fiscal year ending June 30, 1919, is not required to be filed until March 15, 1920, under the state law, although it must be filed before September 15, 1919, under the federal law.

Accounting for Food Preserving Companies*

By Raymond E. Barth

The manufacture of food products which are in the nature of delicacies rather than staples has assumed the proportion of one of the large industries in this country and concerns in this business have become well known throughout the world through well conducted sales campaigns and advertising. Every effort is made to protect the quality of the products by the companies themselves, through the employment of skilled chemists, and by the government, through the enactment of pure food laws. Yet little or nothing has been developed in the way of standardization of accounts and costs.

Such businesses are competitive in nature not only with other concerns in the same field but also with the public itself. The products manufactured consist of such foods as fruit preserves and jellies, condiments, such as ketchup, chili sauce, salad dressing, pickles, etc. These products are also preserved quite extensively by house-wives; and in order to sell their product advantageously, the manufacturers must produce and sell at a price which the public will pay for such articles. There are standard products, known mainly through their trade names, which are ever in demand. In meeting this demand, there seems to be no disposition on the part of the smaller manufacturers to employ accounting methods which will give them necessary data for sales campaigns. The plan with them seems to be rather to fix their selling prices to meet those of competitor companies.

In this treatise are discussed only those accounting features which appertain particularly to this class of industry, without covering in complete detail all the accounting requirements of these businesses. These peculiarities are commented upon in the succeeding paragraphs under the following main headings;

1. Raw materials.
2. Finished product.

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3. Distribution of overhead.
4. Inventory control and cost of sales.
5. Financial records.

Raw Materials

Purchases of materials are made from different sources, depending upon the size of the company. Many of the larger companies have farms on which they produce a large part of their raw materials. Others buy the raw product direct from the farmer under a system described later. Other smaller companies purchase raw material in various semi-finished forms. It is usually necessary for the larger companies to resort to all three of these methods to obtain raw materials. It is to the company which obtains materials from all sources that the following comments apply.

A company which has farms of its own, from which it obtains a large part of its raw product, must necessarily keep farm accounts in order to know the cost of materials grown and to ascertain the advantages or disadvantages of operating the farms as compared with other means of obtaining materials. These farm accounts are simple in nature and record the actual costs of all farming operations necessary to the production of the raw material. Accounts are kept for each farm; and where more than one raw product is grown on any single farm, it is necessary to sub-divide the costs of operation among the several classes of material produced on the basis of acreage. Cost of the resultant production is computed at the proportionate rate per unit of measure that the production units bear to the entire cost. At this point, comparative costs may be obtained between the raw materials grown on the several farms and raw materials purchased from outside farmers.

Contracts for materials purchased from farmers are ordinarily made during the winter and spring months. Through field agents in the different territories in which the necessary products are grown, the company contracts with the farmers for the output of a certain number of acres at a fixed rate per unit of measure of product. Products from farms are ordinarily received by the company at salting stations where the raw product undergoes the necessary preliminary treatment to preserve the quality until it

is needed for further processes. This preliminary treatment usually involves storage in tanks with preservatives, such as salt brine, or possibly cutting, drying or some such operation. In the case of some materials it is necessary to boil the vegetables to a pulp and sterilize in cans until needed at a later date. The expenses at the salting house consist of the costs of the product purchased from the farmer, together with the necessary labor and expenses involved in preparing for storage and shipping to the factory. All expenses directly applicable to the individual products are charged direct to the materials produced, and expenses not directly applicable, such as superintendence and office expense, are usually apportioned on the basis of acreage purchased from the farmer. The total cost of each class of semi-finished material when through the salting house is divided over the total output of that product to obtain a unit cost at this stage. Comparison may then be made with raw materials purchased on the outside in a semi-finished stage.

Purchases of raw material in a semi-finished stage are ordinarily made from brokers or manufacturers handling materials at this stage of completion. The prices paid for this class of material are usually current market quotations which prevail among all buyers at the time.

Materials and supplies used in manufacturing the raw materials into finished goods are purchased in the usual manner.

Finished Product

The handling of costs of finished product is comparatively simple. The raw material at its purchase price or its known cost is charged into the operation developing the finished product. The labor and direct expense, including manufacturing, bottling, canning or storing, labeling and packing, are all direct costs to the finished product and the overhead is applied in accordance with the plan discussed under "distribution of overhead." These costs are applied to the finished product in units of dozens except when barrels, pails or kegs are used as the unit. The total dozens produced in each run are divided into the total cost of each batch produced in order to obtain comparative costs for each run of production. However, for the purpose of monthly costs, the average cost of all production for the month is used.

Certain classes of the product, however, require special consideration. Pickles, for example, in their raw state are purchased as cucumbers at certain rates per bushel, varying with the average size of the cucumbers, the smaller cucumbers costing considerably more than those of the larger size. These pickles are taken to the salting stations and made into salt stock by the use of salt brine until ready for further process.

As it is needed at the manufacturing plant, this salt stock is shipped in tank cars to the manufacturing plant, where it is unloaded into barrels and sorted into the various sizes of pickles, the size name indicating the number of pickles per barrel. After each day's sorting, there are reported to the cost department the number of barrels of salt stock used and the number of barrels of each size of pickles obtained during the day's sorting. At the end of each month these daily figures are summarized to show the total number of barrels of large and small salt stock used and the number of barrels of each standard size of pickles obtained in the sorting.

In order to apply the cost of salt stock in the original grades of large and small to the finished products with a greater variety of sizes and apportion this cost equitably on the relative values of each size it is necessary to use a scale which will record the differences in value of the sizes. This scale consists of arithmetical differentials based on the graded differences in market quotations for the various sizes of salt stock. When the numbers of barrels of assorted sizes have been obtained at the end of each month, this scale is used by multiplying the differential for each size of pickles by the number of barrels produced of that size and obtaining a product representing the total cost above the base cost. This product is subtracted from the total actual cost ascertained from the cost of salt stock used during the month plus labor and overhead and the base rate per barrel is obtained by dividing the remainder by the total number of barrels. To the base thus obtained are added the scale differentials in order to obtain an actual cost scale for the month.

The base-rate fluctuates from month to month, depending on whether the salt stock averages above or below normal sizes for the grade of salt stock used, and the variation in the bases computed for the output of certain farms, purchases or salting house

products is a useful guide to comparative values of salt product from the viewpoint of grade.

Distribution of Overhead

Food production is a seasonable business, i. e., during certain months of the year production is limited only by the capacity of the plant and crop production, while during other seasons of the year the entire efforts of the business are centered upon selling campaigns. It will be seen that a condition like this will have a vital effect on the method of distributing overhead expense, taking into consideration the fact that a very large percentage of the overhead expense is fixed and does not fluctuate with production. Furthermore, elements such as the use of machinery in certain departments as compared with manual labor in other departments have a vital effect.

In order to establish a satisfactory basis for distribution, it is necessary that complete analyses of operations be obtainable for past years. These operations must be analyzed into factors such as productive labor by months and by departments; value of production of sales by months and by departments; distribution of expense so far as applicable to departments by months; and all other conditions which affect the operations of the plant. After obtaining such analyses for prior years, the next object is to establish a rate of overhead on direct labor or on production centers which during the whole of an operating period will take care of the actual accrued overhead for the year. These percentages at first will be somewhat arbitrary, but may be adjusted from time to time as conditions warrant. In such a method of distribution of overhead, there are certain months in the year in which the production is heavy which will bear a larger overhead than actually accrues in those months, but this condition will be offset during the less productive months by smaller distribution of overhead than actually accrues. If the percentages for each department have been worked out in a careful manner, there should be no great discrepancy between the actual overhead accrued during the year and the overhead distributed during the operating period. If there is a large discrepancy it will be due either to inaccuracy in the percentages used or to some unusual condition arising which was not covered in the percentage. In

one case the percentage of difference during the year was less than one-half of 1% of the total overhead for which provision had not been made.

Inventory Control and Cost of Sales

It is advisable, indeed essential, that a proper control of the inventory be obtained, but the very nature of the product makes it unusually difficult, owing to the fact that there are so many classes of product and so many small units. It would otherwise be impossible to place responsibility for shortages on any one person on account of the size of the stock and the number of people handling it and shipping it.

A satisfactory scheme is to have the loose stock piled in symmetrical piles, a certain number of units to a layer and a bin card or stock card used for recording the amounts placed in stock or taken out. The stock cards are controlled by a stock book. Reports of finished product are checked against the stock book, which in turn is checked against each stock card daily; and reports of withdrawals from stock are checked against the shipping orders and also against the stock cards daily. In turn, the withdrawals from stock are checked against actual sales by daily analyses of sales by quantity only. If loose stock is packed in boxes or cases, a separate stock record is kept for the cases and the piles of cases are checked daily in the same manner as are the loose piles. In this way it is possible to keep accurate control of the stock at all times both as a check against production reports and as a check upon cost of sales.

At the end of each month, the total production in units and money for the month is entered on a summary card. The units of sales are summarized and entered on this card. The unit cost of sales for the month is obtained by averaging the inventory at the end of the preceding month with the production for the month, the cost obtained being applied to shipments and the cost of sales thus ascertained. This cost is summarized by departments and a cost statement is prepared for the general accounting department showing the necessary data to be entered on the general records and also for the purpose of preparing financial operating statements.

Financial Records

Financial records differ only slightly from those of other manufacturing companies, with the exception that there must be some means of keeping in touch with the expenditures for raw materials at the different salting stations. Funds are usually provided for the men in charge of the stations for the payment for materials on delivery. They in turn furnish weekly reports to the company showing the expenditures and the purpose of such expenditures and these statements become part of the financial records and are handled in somewhat the same manner as are disbursements from petty cash funds.

Owing to the seasonable nature of the business, there are certain periods of the year when usually large sums of money are required, and, in order to obtain the necessary credit or financial assistance, it is imperative that the company be able to render a satisfactory form of balance-sheet based on actual figures. The preparation of such a statement would be impossible with any degree of accuracy unless some form of perpetual inventory were in use, because an actual inventory in a business of this character requires suspension of operations for an unusually long period.

Adequate Accounting a Real Necessity

The sales department in a business of this kind is usually larger proportionately than in other industries. The department must be organized and directed in regular selling campaigns along the most advantageous and profitable lines. While the disposition of the smaller manufacturer in this business is usually to fix selling prices to meet or undersell his larger competitor without even a fair estimate of his own cost to manufacture, few classes of business can be pointed out in which this practice is more dangerous. A manufacturer's large competitor usually grows his own crops and in cases of over-supply reduces his selling prices so as to move the product finished from such over-supply before the period of spoilage begins. The manufacturer who has only the competitors' prices to guide him has often been known to regard himself as successful on account of a large business in sales, when as a matter of fact he has been buying semi-finished product or raw materials in the market and finishing them at a cost greater than the well-organized competitor's selling prices.

Greenhouse Accounting *

By A. F. Wagner

Greenhouses are, in general, operated for growing either cut and potted flowers or market garden produce. These two types of greenhouses present many analogous problems, but it is intended that this article shall cover only the accounting requirements and peculiarities of the producing florist's greenhouse. Furthermore, the retail distribution of the greenhouse product will not be considered, for the retail florist's business presents only those accounting problems usually connected with the merchandising of highly perishable goods to customers who, at least partly, are poor credit risks.

The average floral greenhouse in its accounting aspects presents a peculiar mixture of a farm, an industrial manufacturing plant and wholesale merchandising. The last of these phases demands that most sales be made for cash or a sufficient reserve be set up for bad debts. Except for certain local holidays or festivals which stimulate the sale of flowers, the main selling seasons of greenhouses are Christmas and Easter, the sales for the two months in which these holidays occur often being more than double the volume of sales for the other ten months of the year. Owing to the outdoor growth of flowers in private gardens, the summer is by far the poorest selling season.

In spite of the seasonal nature of the business, there is no time during the year when the floral greenhouse is not producing some sort of a crop in expectation of a future selling season. Were it not for this constant production, a greenhouse could end its fiscal year on the date when no plants were growing, thereby securing a correctly priced inventory and a correct statement for the fiscal period.

We now come to the main difficulty in securing an accurate statement of annual profits and net income; namely, the proper pricing of the inventory of growing plants. The farmer usually

*A thesis presented at the November, 1919, examinations of the American Institute of Accountants.

has all his crops harvested at one season of the year, and can at least price the unsold portion thereof by deducting a percentage from the average market price prevailing for the previous few months. The greenhouse operator, always having some crop growing or "in process," can resort to no such methods, and often inventories growing plants by actually listing the cost of the seeds, bulbs, pots, etc., and making a guess at the cost of the labor and heat which have been expended on unsold plants.

From the above remarks it is evident that no greenhouse can be certain of its annual profits, to say nothing of knowing which crops are or are not profitable, unless its accounting system automatically provides a real inventory of growing plants (work-in-process) at cost. To accomplish this desideratum, it is imperative that the greenhouse accounting comprehend a cost system which is in many ways analogous to similar systems operated by manufacturers. The remainder of this paper will consider the ends to be accomplished by such a system, and, without presenting detailed forms, will endeavor to set forth some of the means of accomplishing these ends.

The advantages of having the cost records "tied up" with the general books need not be elaborated here, for it is sufficient to state that this should be done. However, before proceeding with the planning of any such system, an accurate plan should be made of the greenhouses showing particularly the number of square feet of floor space in each separate unit and, if the buildings are of various heights, the number of cubic feet in each house, Furthermore, the floor space of each structure should be divided into numbered "production plats." After this has been accomplished, no production should commence except when so directed by an order issued in the main office. Each production order should be issued for but one kind of plant or flower and should specify the kind of flower, the number to be planted, the approximate date when production is to be completed, the materials to be used and the house and plat number or numbers of the space to be used in the growth of the particular order. A duplicate of this order can be made to serve as a material requisition. In order that workmen may know at all times the production order numbers of each plat, such numbers, in large type, should be hung above the growing plants. The principal items of the cost

of producing flowers arranged in the order of their usual importance are as follows: labor; heat; bulbs, seeds and shoots; building repairs. Therefore, in determining greenhouse costs, these items, in particular, must be carefully allocated to specific production.

In order that an accurate record of materials used in production and on hand may be obtained, perpetual inventory accounts should be operated under the following main headings: (1) bulbs, seeds and shoots, (2) pots, (3) soil and (4) fertilizers. The operation of the first two of these accounts offers no particular problem. However, the soil account should be segregated into raw soil and fertilized soil. If the raw soil is purchased, its cost per cubic unit is definitely known; but, if dug on the greenhouse premises, a record must be kept of the labor cost of digging and the cubic units dug. When fertilizer is added to soil, a definite amount of earth should be fertilized and thereafter kept on a stock pile separate from the raw soil, the cost of the fertilizer being added to the unit price at which such prepared soil will be charged to production. Because a greenhouse usually sells its product in two forms—namely, cut flowers and potted plants—it will be necessary to keep a record of all pots and soil remaining on hand at the completion of each production order. The unbroken pots should be returned to stock and credited to the cost of the production order at their cost price, and the remaining soil should be returned to raw soil stock and deducted from the production order cost at the average cost of raw soil. This latter price may vary somewhat from the original cost of the raw soil, but such fluctuations will be inconsequential in their total amount.

Direct labor is usually the largest single item in greenhouse production costs and consequently an accurate accounting for the time of all workmen is essential. Each employee should be provided with a daily time card on which he shows all orders on which he has worked and all operations performed during the day, whether they be setting out pots, planting, pruning, watering, cutting, or indirect labor, such as whitewashing or repairing glass. A large greenhouse is spread out over so much territory, and has so few workmen per square foot, that it is impossible for the superintendent constantly to observe the work of all em-

ployees. Consequently a certain amount of time should be spent daily examining employees' time cards in order to determine whether or not any employees are wasting time.

In designing a payroll book for a greenhouse, it is advisable to arrange the book so that the total direct and indirect labor, both hours and cost, shown on time cards may be proved with the total of each periodical payroll. Some greenhouses specialize so as to have only a few large production orders in process at any one time, in which case the payroll book may be drawn up so as to provide an analysis of direct labor by production orders. The employees in a greenhouse usually have little clerical training; hence all labor records which they are to make should be made as simple and easily understood as possible. However, with proper instruction of employees and with order numbers conspicuously displayed over every production plat, no great difficulty should be experienced in securing an accurate record of labor. In all cases, the actual hours of direct labor expended on each order should be shown on the cost sheets, for such hours are perhaps the best method of apportioning certain indirect expenses.

The indirect production costs in a greenhouse fall naturally into two main classes: the first consisting of heat and building expenses, that is, building services and rent or payments in lieu of rent, such as repairs, depreciation, building insurance and real estate taxes; and the second consisting mainly of superintendence and such indirect labor as does not constitute a building service. Apparently the most equitable way of distributing the first of these two classes is on the basis of square feet occupied by each order, or, in greenhouses of varying heights, on the basis of cubic feet. The incidence of the second class to production is most nearly in accordance with the direct labor hours; however, in some cases both classes of indirect production costs may be equitably distributed to production orders on the square foot basis. When this latter method can be adopted it recommends itself because of simplicity.

Greenhouses often have their main fuel stock in a pile outside the boiler room and maintain an approximate one-day supply in the boiler room. When this is the case, it is fairly simple to keep a record of amounts removed from the main stock and thereby determine a nearly accurate monthly fuel cost. When

this procedure is not followed, other means of recording the quantity and cost of fuel consumed must be devised. In order to determine a correct heating cost, all labor and expense connected with the boiler room or steam plant, including depreciation, should be charged as a heating expense.

Owing to the peculiar construction of a greenhouse, the fixing of a fair depreciation rate is a difficult problem. The glass roof and sides (which form a far larger part of the cost of a greenhouse than do the base and frame) are constantly being replaced. On first thought, it seems logical that the depreciation rate cover only the cost of the frame and base, the repair and replacement of the glass keeping the roof and sides in as good condition as when new. However, there's a rub, for, when it becomes necessary to replace a base and frame, approximately one-half of the glass is broken before it reaches its place on the new frame. Consequently the greenhouse has, roughly, a fifty per cent salvage value in the glass which has been kept in perfect condition at a heavy expense.

The indirect production costs or manufacturing burden of a greenhouse, except repairs, are not given to violent fluctuations but do fluctuate generally with the volume of production. It is, therefore, advisable that the actual manufacturing burden be charged into production orders as incurred from month to month. In order to level the monthly charges for repairs which are generally made during the summer, it is preferable to charge an estimated amount into the manufacturing burden each month and set up reserves for repairs against which the cost of repairs actually made can be charged. If this procedure is followed and all burden is charged to production month by month, there will be no large amount standing on the books at the end of the year representing manufacturing burden over-absorbed or under-absorbed. It is necessary to make annual adjustments for inaccuracies in the original estimates of steam plant and building repairs, but careful planning will reduce such discrepancies to a minimum.

In order to summarize the costs of individual orders, it is necessary to operate a cost ledger and cost sheets in a manner similar to the procedure followed in the cost systems of manufacturers. These cost sheets representing orders-in-process

should be controlled by a general ledger account, which may be styled "growing plants." Inasmuch as the plants are constantly growing and blossoming until sold or the end of their life, it is impossible to operate any account similar to the manufacturer's account "finished goods." Production in a greenhouse can usually be planned so as to be complete and sold in any one month. When an order reaches this completed state it should be removed from "growing plants" and charged to cost of goods sold. However, cases often arise when prematurely developed plants or flowers are sold long in advance of the final completion of the entire production order. Until the order is completed and sold such sales may be credited to a suspense account such as "invoices rendered on uncompleted orders" and transferred to sales when the cost of production is brought into cost of goods sold. Before finally determining the cost of a specific production, care must be exercised to see that all remaining usable materials have been returned to the proper stock accounts and deducted from the production costs shown on the cost sheets.

If efficiently managed, the selling and administrative expenses of a producing greenhouse should form a small portion of the total expense. For that reason, it does not seem advisable to undertake the clerical work necessary to allocate such expenses to each sale or group of sales. The chief executive, if awake to his position, knows the average percentages of these classes of expense, and can apply such percentages to any order when he so desires. Such expenses will appear separately in the monthly statement of profit or loss, and percentage calculations of these expenses also should be shown on that statement. This method therefore includes only actual manufacturing burden on the various cost sheets, which means that the cost figures must be combined with brains when they are used to determine a selling price.

The foregoing is a sketch of the main points to be considered in devising an accounting system for a floral greenhouse. If properly operated, such a system will not only afford an accurate statement of net income or loss for each fiscal period, but it will also present means of reducing waste of labor and materials and, further, give accurate data as to which are the profitable crops.

Uniform Accounting in the Textile Industry*

By Chester R. Union

A prominent man in the textile industry while discussing the development of the use of standard accounting methods asked: "Why should we capitalize all additions to plant and equipment? We have always charged them to expenses in order that the book values of the property might be conservatively stated." The idea is typical of many old and successful textile firms, that is, to use arbitrary accounting methods to establish hidden reserves in their financial statements.

The real objection to the use of such methods is not due to the purpose intended to be accomplished, but to the manner in which it is carried out. Perhaps the best answer would be a plea for the use of uniform accounting in the industry.

The use of uniform or standard accounting methods has been developed greatly during the last few years. Their advantages have been conceded in the case of accounting for public institutions, and they have been successfully used by all public utility industries. Several semi-public and private industries have more recently adopted generally uniform methods. The federal government, through its recent requirements for taxation, to some extent, has standardized accounting in all industries.

The textile industry, embracing the manufacture of cotton, woolen, worsted and kindred goods, is one of the oldest and largest of our industries. Many of the firms have been using about the same general accounting systems for a generation or more without embodying modern standard principles. As they have been successful financially and are large and powerful, it might be more difficult to convince these members of the industry that standard and uniform accounting methods for the industry would be a great improvement.

Uniform accounting for the industry might be limited to uniformity as to the accounting principles used and the requirement of certain results to be obtained through a uniform general

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classification of accounts and not necessarily be extended to any prescribed system or methods. The results required would be uniform financial statements which might follow the lines suggested by the federal trade commission as standard forms for general use. Simple uniform cost accounting systems could be adopted by the different branches of the industry which might be perfected by combining the best ideas in the industry and allow for extension according to the details desired.

The general advantages to be derived from uniform accounting by the textile industry may be grouped under three general divisions: (1) more general use of standard accounting principles and methods; (2) benefits from trustworthy comparisons; (3) general use as a basis for determining selling prices.

As the uniform accounting would embody the best accounting in the industry it would improve the methods of any firms which still used the old so-called conservative but inaccurate and misleading accounting methods. Uniform accounting means the use of standard accounting methods such as will show the true profits, expenses and financial condition.

If it were desired to reserve part of the profits to take care of unforeseen but possible losses, this would be done with the full knowledge of the directors and with a complete record thereof. The accounts kept to show the cost of the plant, for example, would show it correctly and be available for other uses, such as making the correct annual provision for depreciation; using the true invested capital in computing excess profits taxes; adjustment of losses from fires; in case of sales of the property; or showing more correctly the actual surplus of the company in case of sales of the capital stock.

The arbitrary methods common among many textile firms have resulted at times in concealing profits and understating the assets. Plant values have been reduced arbitrarily and concealed in reductions of the profits. Profits have been understated by including the cost of additions to the plant in the repairs, labor and materials expenses. Inventories of the product have been undervalued, causing misstatements of the profits.

These arbitrary charges to profits have occurred irregularly and only in years when good profits have been shown. In other years perhaps the proper provision for depreciation was not

made. The result might be that over a period of years good profits would appear to have been earned consistently each year. In this way the extent of the effect of the fluctuating conditions in the industry might have been concealed from the directors as well as the stockholders.

It is important, for example, that the directors be fully informed as to the effects of fluctuations in prices of the raw materials used. The importance of the policy of keeping purchases of raw materials covered by sales orders of the finished product will then be understood.

There was a common method, used by the cotton mills in New England, of understating the cost value of inventories of work in process. The materials in process of manufacture were valued at an amount far below the cost of the raw material, not to mention the labor and overhead costs. There was no system in the method except to make the value low for conservative purposes in financial statements. Usually the method was applied more or less to the finished product, resulting in understating its value also.

The common argument in the industry in defense of the method has been that if the plant were to shut down at any time the work in process would be worth only a scrap value. If the scrap value basis had been used consistently there would have been more merit in the argument. The values, however, varied from year to year without relation to the scrap values and when the method was applied to the finished product there was not the same justification for it.

It is impossible to find the profits on an accurate cost basis by using this method of valuing inventories. If it is desired to create a reserve out of profits, one may be established after the correct profits for the period have been shown.

A standard cost or market value basis of valuing inventories is now demanded for the purpose of determining the profits for taxation under the federal income and excess profits taxes. It should be noted that the additional value of the inventories on this basis increases the invested capital and therefore decreases the excess profits taxes to be paid. The requirements of the federal government through the income and excess profits taxes have made it necessary for the executives at least to take into

consideration the results of these arbitrary methods. While many have believed it the easiest course to change their methods, they have done so as though compelled by the tax authorities. If they realized, however, the full significance of the indirect effect of their methods on their business they would have changed more willingly.

Capital stock is often held by trustees for the benefit of widows and children. They are entitled to know the exact condition of the business in order to determine whether to hold the stock or to sell it and replace it with an investment in a more stable industry, or perhaps to change from common stock to preferred stock or bonds of the same company.

If, in enlarging the business, additional capital were desired the bankers would require financial statements of the business covering several years. They would want to know the true financial position and the correct results of the business each year. The bankers, while appreciating the company's explanation that its reports were conservative for one reason or another, would put more faith in the reports themselves and not have to rely so much on the character of the officers making them or on accountants if the reports were free from concealed arbitrary methods and were prepared on recognized, sound accounting principles.

Many textile firms have modern accounting systems and know their value. These firms, therefore, would be the quickest to see the additional advantages from uniform accounting methods in the industry. Everyone knows the value of the standard form of railroad reports for comparative and other purposes to the officers, investors and public. The principle of the standard form has many well-known advantages. The application to any particular industry or group will vary only in the extent of the details. The volume of details required in railroading, of course, would not apply to the textile industry.

The Harvard graduate school of business administration has undertaken to develop the use of uniform accounting in the retail shoe business. It is intended, also, as an example to other industries to show the advantages to be derived from the adoption of standard methods in general. Large numbers of firms have adopted it and furnish their statements periodically, from

which average statistics are prepared for their information and use.

In the interest of uniformity in balance-sheets and income statements, principally for industrials, the federal reserve board has published a pamphlet intended to standardize the form and preparation of these statements. This uniform standard of financial statements might be adopted as a general standard by any industry. The federal trade commission has seen the wisdom of recommending a simple and general cost accounting system for manufacturers in order to benefit those having only imperfect systems and by spreading this information generally to improve and more or less to standardize accounting methods. Another pamphlet was issued outlining a simple set of accounts for retail merchants.

One of the branches of the textile industry adopted a uniform cost accounting system within the past few years in an effort to educate the members of the trade to know their costs. A firm of accountants collaborated with members of the association and a simple uniform system was perfected which was adopted formally by the association and is used by a large number in the business.

When the form is accepted as a standard in the industry there will be a better general understanding and appreciation of financial and statistical statements. When it is known that certain firms' statements are inaccurate for one reason or another or are made up on an antiquated basis giving little opportunity for intelligent comparisons, the comparative value of the accounting statements of the industry is lost. A standard form would be simple to learn and understand; investors, bankers and officers would be more interested thereby; and the statements would be of much greater value to all.

Standard or accepted forms of statements would be useful for comparative purposes by officers. Different departments or mills in which they are interested might be put on an accurate comparative and competitive basis with each other. The causes of the weakness or strength in each might be graphically and quickly brought to the attention of the executives. A continuous record of the changes from period to period in these vital points of the business would give the proper guidance to executive

judgment in operating the business. This, however, cannot be realized, unless the accounts and statistics are prepared on the same general basis and in the same form.

Comparisons are often made without preparing the accounts in this way and erroneous conclusions are necessarily reached. For example, waste from raw material, which is an important item in textile manufacturing, may be recorded in the accounts as an income or sale; it may be credited to the cost of the raw material when charged to process; it may be carried at the selling prices or at arbitrary percentages of cost prices. Loss on seconds may be shown separately, and on the basis of costs or on arbitrary basis are not to be shown separately. Labor may be carried in one account or may be subdivided into repairs and general mill overhead expenses, etc. Coal used may be charged on the actual weights or on arbitrary estimated weights with comparatively large adjustments when the stock on hand is verified. There may be differences as to where the line between plant replacements and repairs is drawn, leading to important differences in the amount shown as repairs expense. The mill overhead may be apportioned over the departments in one case and may be carried in lump sums in another or it may be apportioned on an incorrect basis. There are numerous ways in which differences in the preparation of statistics in the same business may be entirely misleading for comparisons.

In the case of comparisons between the results of different lines of business within the textile industry, only certain points of similarity are open to a beneficial comparison. However, from the financial point of view, valuable comparisons may be made as tending to show the trend of change between the kinds of business. The general percentage of profits on sales and on the capital as compared with previous periods is useful to the financial interests. Comparisons of the increase in volume of sales and increase in capital required are useful for different kinds of business to indicate where developments and enlarged operations should be undertaken.

Let us suppose that the same executives managing different lines of business in the textile industry have the accounts of these plants thoroughly examined and comparisons made. The comparative costs per unit for direct labor, material and over-

head for the different plants at the same date would not have much value. There might, however, be some value in statistics showing the comparative fluctuations from period to period as indicating the tendencies of changes. For example, it would be valuable to the executives to know the comparative increases or decreases in the various items of cost in the different lines of business, such as labor and materials, and also the comparative fluctuations in the margin of profits.

While one plant might have reported fair profits and perhaps in some respects have been arbitrarily conservative, yet with its reports completely prepared on the basis adopted by the others it might be found that this plant was not making a proper return on its investment. It is difficult to overestimate the value to the executives if this were found during a period when selling prices in general were advancing and might be fixed at any level within reason.

An example of the use of uniform accounting was seen in the federal trade commission's general investigation of cotton mill costs for the purpose of fixing maximum prices during the war. Costs and other data were prepared under a generally uniform system from the accounts and records of numerous mills. These were compared and averages were worked out. From this information maximum prices could be established intelligently at levels which would result in good profits to all.

Similar methods were used by the United States navy during the war in determining settlements for special articles furnished when prices could not be fixed in advance of production. The costs and other data were assembled under a generally uniform system. The results of similar firms were compared. These results could be used in making settlements which allowed good profits. Without this uniform system the purpose of the plan could not have been carried out.

The fundamental principle of the cost-plus contract is that to the measure of profit is to be added reimbursement for costs determined on standard cost accounting principles. The emergency contracts used by the government departments called for the use of accepted cost accounting principles applied uniformly in making settlements under the contracts.

It is evident that there are well defined and accepted general

and cost accounting principles. If in the application of these principles to the industry the accounts are prepared under a uniform general classification, the results may be used for comparisons, which will form a sound basis for executive judgment in controlling the business.

Selling price levels can also be fixed by executives with approximate knowledge of the profit to be derived from their mills. If costs prepared by different mills are used as the basis for selling prices, the methods of preparing the costs should be uniform, or the executives will be relying on certain profits as being earned when in reality some mills may be losing money.

There are probably few cost accounting systems in use in the textile industry in general. In some instances, it may be considered that the business is simple and that costs may be readily ascertained by the use of estimates. This is perhaps true in a few cases but it would be easier to adopt a uniform system which has been accepted in general. In other cases of more complicated manufacturing, the actual costs are not known.

Both inadequate costs systems and lack of uniformity in calculating costs have been the cause of ruinous price-cutting. The industry should not be at the mercy of firms which do not know their own costs.

It would be the purpose of uniform cost accounting in the industry to prevent cut-throat competition. With the use of uniform cost accounting, there would be general appreciation of actual costs. If any companies chose to use price-cutting methods, they would fall with full knowledge of their costs and expectation of their doom.

It has been held that general trade organizations for the control and fixing of prices in an industry are illegal. If an association were conducted with the purpose of promoting better general knowledge of accurate costs as a basis for selling prices, the undertaking would have legal sanction as well as merit from a practical and business point of view. It would be to the best interests of the industry to establish the custom of basing selling prices on actual cost, plus a certain return on the investment.

Mill cost generally means the cost of the finished product in the mill. In addition the executive must consider the general administrative and selling expenses, plus the profit, in determin-

ing minimum selling prices. The general overhead is almost uniformly expressed in the form of a percentage of the expenses to the mill cost, usually taking into consideration the volume of business for the period. There are also general principles to be observed in application of the profit allowance to costs for determining the minimum selling price basis.

For example, suppose a twenty per cent return per annum be considered a necessary average margin of profit in the textile industry. As a general proposition, the average total assets used in the business, less the non-interest-bearing liabilities, represent the capital entitled to its return. The volume of business at the mill cost plus general overhead expenses constitutes the turnover, which may be expressed in its percentage to the capital. If the turnover be at the rate of once a year on the capital, the rate (twenty per cent) which is to be earned on the capital, may be applied to the cost, plus the general overhead, for the profit allowance. If the turnover be twice a year, one-half the rate of profit or ten per cent may be applied to the cost and yield the same rate or twenty per cent per annum on the capital.

The necessary return on the capital may be calculated more closely by including in the profit allowance only the specified rate of return on any capital in the form of interest bearing indebtedness or preferred stock. The result would be that with a smaller total profit allowance the same rate of twenty per cent might still be earned on the common stock. If the product is divided into different classes which utilize entirely disproportionate amounts of capital, the latter should be sub-divided between the departments in determining the capital on which the return is to be completed.

The value of uniform accounting to the textile industry in educating its members to know their costs and necessary margin of profit in order to prevent unintelligent competition alone would be sufficient to make it desirable. The other advantages, however, are equally important in providing accurate comparative statistics for the guidance of executive judgment, in improving certain antiquated methods used and in increasing intelligent use of financial reports by bankers and investors which would serve to put the industry in its proper light.

Accounting in the Peanut Industry*

By W. S. Taylor

As an industry the cultivation and production of the humble peanut has in recent years reached such proportions as to astonish most of those not directly connected with it in a commercial way.

The peanut is essentially a product of the south and is most largely cultivated in the states of Virginia, North Carolina, Alabama, Oklahoma and Texas, with Alabama in the lead as to volume of production. It ranges in size and quality from the small, round Spanish to the enormous "Jumbo." The sale is, to the mind of the uninitiated, consummated through the channels of trade represented by the automatic selling devices, the corner peanut vendor with his portable roaster (invariably equipped with a steam whistle) and the quite as popular peanut butter.

The crop matures in the states of Virginia and North Carolina about the first of October and is harvested by plowing. The vines with the nuts clinging to them are then piled loosely around stakes in the field for the necessary process of drying, after which they are put through a unique and very capable machine similar to a threshing machine, run by a gasoline engine and called a peanut picker, which most thoroughly separates the vines and nuts which are then placed in sacks for market.

The producer is primarily dependent upon the cleaner and sheller (whose establishment is known as a factory) for his market, and the latter is usually located in close proximity to the producing sections.

Buyers representing the cleaners and shellers are the usual medium through which original sales are made. They are salaried employees, commission men or free lances who take the chances of the fluctuations of the market.

The crop is almost invariably bought for cash. If shipped by rail, sight draft accompanied by bill of lading is the usual

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method of settlement, while what are termed "door purchases," i. e., deliveries by team or motor truck to the factory, are paid for immediately at the factory office.

The sight draft purchases are of course handled through banks in the usual way. Door purchases in the factories which the writer has in mind are checked for weight and quality by a superintendent or foreman who issues to the seller a receipt carrying weight and price, which he presents for payment to a cashier, who in turn, at the end of each day, reports to the general office the amount of the purchases, attaching the receipts as evidence of the acquisition of the commodity for which payment has been made.

By arrangement with the banks, cashiers' cheques are drawn for these purchases, which are treated by the banks as sight drafts and as such are presented in the usual way to the general office of the factory to be taken up by cheque.

In both instances the payments become a charge to "peanut purchases," and the entry carries a memorandum of the number of bags.

The cleaning and shelling process is of course largely mechanical, such peanuts as are to be sold in the shell being treated to a polishing process into which enters the use of a fine gritty powder known to the trade as "cleaning product." This gives the peanuts an attractive appearance with a velvety surface and a suspicion of a powder similar to talcum which naturally disappears in the process of roasting.

With the exception of the sorters the employees are carried upon the regulation payroll. The sorters are usually negro women and children who are paid for piece work by brass checks redeemable once a week at the cashier's office and in some instances, by agreement, are accepted by merchants in lieu of cash and redeemed by the cashier at stated intervals.

The sorters are closely seated on either side of slowly moving belts on which the peanuts drop from the cleaning machines and certain sorters remove designated sizes as they pass. A foreman in charge of each gang furnishes each worker with a card on which denominations are printed conforming with and in multiples of the piece work price, on which as the work progresses he punches the accumulation. At the end of the day these

cards are exchanged for brass checks equaling the largest amount or amounts punched.

The method of handling the brass checks is as follows:

All purchases of brass checks, which are in denominations of 5, 10, 25 and 50 cents and $1.00, are charged in volume and at denomination values to a memorandum brass check account and are in the custody of the general office.

Requisitions in triplicate are issued by the factory superintendents, the original and duplicate being sent to the general office and the triplicate retained.

These requisitions are honored by the general office by the issuance of brass checks in the denominations desired, retaining the original and delivering the checks with the duplicate to the cashier, who, after verifying the count, records the volume and value, in a record provided for this purpose, and delivers them to the superintendent, who again verifies the count.

These checks are issued by a foreman to the workers at the end of each day and are presented by them to the cashier on a regular pay day for redemption or are used by them in trade with merchants.

On the morning of pay day the cashier notifies the general office of his cash needs for brass check redemption, accompanying his request with the duplicate requisitions. These are checked against the original requisitions and a check covering the required amount is issued and cashed for payroll purposes.

All brass checks cashed by the cashier are credited upon his record and the balance shown as outstanding should equal his cash balance.

The checks are then turned in to the general office, receipt is given to the cashier for their volume and value, and they are charged against the general office brass check account, the balance outstanding representing the amount of cash that should be in the hands of the cashier, the correctness of which is verified at irregular intervals.

In some circumstances the punched cards are presented to the cashier by the worker to be exchanged for brass checks. This necessitates the keeping of a record of cards thus redeemed for payroll purposes and the issuance of requisitions in duplicate to the general office.

One feature of the business which tends to simplify the

accounting work is that settlement of customers' accounts can be required by invoice or invoices. Several factories that have come under my notice do require such payments.

This condition permits the elimination of the usual subsidiary accounts receivable ledger which requires the posting of all invoices and settlement items, such as cash, discounts, rebates, allowances, freight adjustments, etc., by the adoption of the following method:

Invoices are made in triplicate (unless the customer requires two or more copies) and are numbered consecutively.

The original goes to the customer with bill of lading.

The duplicate and triplicate invoices, which are perhaps an inch or two wider than the original (but all are of the same depth), are punched to fit binders and are provided with printed forms for recording date and nature of correspondence, such as request for payment or discussion of claims, as well as for the recording of the details of settlement.

The duplicate is filed daily in an indexed binder which becomes the account receivable ledger, invoices to each customer being grouped, with the one of the earliest date appearing first in each group.

As settlements arrive the proper entries are made in a cash journal and posted to the invoice or invoices included in the settlement. Such invoices are then removed to a transfer or paid accounts receivable binder, similarly indexed, for future reference.

As these transfer binders fill up they are marked on the binding end with the payment dates which they cover and are filed in consecutive order on shelves usually provided in the office vault.

The triplicate invoices are filed numerically in a separate binder and become records of sales, which are accumulated monthly, by adding machine, upon plain sheets, similar in size and punching—but of a distinct color—and the total of bags and value is recorded in a cash journal to the debit of accounts receivable control account and to the credit of sales account.

If desired, the bags and values may be segregated into grades and these totals may be accumulated for the cash journal entry.

By this method one operation on a typewriter produces an invoice, a ledger account and a record of sales quite as safe as

and preferable to a ledger, because in this case the ledger contains only clearly defined open accounts and the sales record is most complete and comprehensive.

In addition to these forms and records there are also the usual office records for notes receivable and payable, payrolls, insurance policies and analysis of expense, including of course a general ledger. Because there is nothing unusual in the accounting work except as noted I have not gone into its further detail.

Until recent years it was the practice of many factories to use the peanut hulls for fuel, and the supply was in most cases equal to the needs.

About three years ago it was ascertained that the hulls after being ground into a fine meal made a most desirable and effective absorbent, which almost immediately attracted the attention of manufacturers of tin plate.

Among the finishing processes in the manufacture of tin plate is an oil bath. Removal of the surplus oil is not only desirable but necessary. The absorbent quality of peanut hulls appealed to the tin-plate manufacturers and created such a demand for hull meal that mills for its production came into being and contracts were entered into through which the factories were enabled to change their steam-producing medium from hulls to coal.

Some of these contracts were peculiar because of the fact that the purchase price of hulls was dependent upon the cost of the substituted fuel, adjustments in the billing price at stated intervals being provided. This arrangement seems to have worked to the material benefit of the factories, because of more economical conduct of the boiler room brought about by the reduction of volume of fuel handled. In some cases it became a source of net income.

When it is understood that a comparatively small factory whose invested capital does not exceed two hundred and fifty to three hundred thousand dollars is quite likely during the short, rush, buying season to make purchases for spot cash aggregating a million dollars or more, the question of finances becomes a most serious one and adequate bank accommodation is a stern necessity. This requires either collateral in the form of storage warehouse receipts or acceptable individual endorsement, and sometimes both.

Uniform Accounting for Retail Coal and Lumber Trade*

By Robert S. Pasley

The business problems and difficulties of the retail dealers and particularly his prices are of vital interest to most of us in these days of the diminishing purchasing power of the dollar. It is true that when the retailer acquires the special commodity he handles, it already carries a heavy burden made up of all the costs and all the profits of all who have dealt in it before. He completes the magic process by adding his costs and his profit and then courageously breaks the news of the selling price to the ultimate consumer. It can be seen, then, that, if the costs and percentage of profit calculated by the retail dealer are erroneous, the consumer suffers. This is so whether the resultant price is too high or too low. If too high, the dealer is profiteering at our expense. If too low, the dealer, and possibly his creditors, make a loss which has to be made up somehow. When a loss has to be made up somehow the consumer usually pays the bill.

The average man realizes that the price of an article to him in addition to its cost of production should carry a proper percentage of profit to recompense all who have had a part in the bringing of that article to his doorstep. He becomes incensed, however, if he has reason to believe that the price of that particular article has been fixed by guesswork; for experience has taught him that in a guessing contest on the part of others he will be the loser. It is obvious, then, that anything which will serve to increase the accuracy of the retailer's knowledge of his business, upon which he bases his selling price, will help the retailer and will please the dealer's customers. I believe it is almost self-evident that accounting along uniform lines, by any branch of industry, is a step forward in the ascertainment of accurate costs—and accurate costs should be the groundwork of a reasonable selling price.

I am moved to treat particularly, in this article, of the retail

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coal and lumber industry because I have come in contact in a professional way with the educational work relative to uniform accounting that is now being accomplished by two associations of retail coal and lumber dealers within their own membership. Neither association, however, has yet succeeded in putting such a plan into effect among its members. It is encouraging, though, to note that the importance of accurate accounting is being recognized by trade associations and that each member thereof is being gradually educated to the point where he recognizes the fact that his system of accounts or lack of system bears a direct relation to his success or failure.

In comparison with other retailers the coal and lumber dealer requires a fairly large capital to conduct his business. He needs considerable space and much equipment both for receiving and storing his materials and for the delivery of them. As his dealings are generally with the householder rather than with the business man as such he may be taking considerable risk on the collection of some of his accounts. A year ago he was under regulation by the fuel commissioner as to his receipts and deliveries and may be again. He suffers as much as if not more than those engaged in other industries from strikes and uncertain labor conditions, and the labor problem is further complicated to him by the seasonable nature of his wares. With, perhaps, more than the average difficulties confronting retailers, the coal and lumber merchant cannot afford inadequate accounting.

Trade associations have done much toward broadening the minds of business men, particularly in their relations with their competitors. The business man of to-day realizes that he may learn or unlearn much from his competitor and that his competitor may learn much from him—a relation that is mutually advantageous. This is not the attitude of mind that prevailed some years ago. Then the members of the same trade or industry, if not exactly suspicious of each other, apparently felt that the imparting of knowledge to their competitors detracted from their own store of that scarce commodity. If that state of mind existed to the same extent now, the retail coal and lumber dealer would not derive as much benefit from a uniform system of accounts as he might. A comparison of unit costs (possible only where systems of uniform accounting are in effect) leads to an interchange of ideas, among the members, which is bound to prove

beneficial to many. The benefits accruing therefrom would ultimately reach the consumer.

It may be argued that the price charged for coal in any district is about the same by each dealer in that district, that about a year ago the rate to the consumer was determined by the fuel commissioner and that the individual retailer could not influence the price one way or another no matter how well he knew his costs.

Let us suppose the unregulated price of coal, as charged by all retailers in a particular district, is substantially the same. It is probable that most of the dealers are following the lead of one or two without question as to whether the rate has been determined scientifically or not. Even though the prices charged by the leaders are fair to themselves and allow a reasonable profit, the same prices charged by another retailer may be suicidal or unnecessarily high. If this particular dealer calculated on the basis of his own costs a price which was so much higher than his competitors' that his sales suffered, he would naturally endeavor to ascertain in what respects his business was less economically administered. If the price so determined was much lower than his competitors' he should make sure that he was not omitting from his calculations of costs items of expense such as bad debts, depreciation, etc., which, although not paid in cash, are nevertheless real expenses.

The fact that the fuel commissioner arranged prices covering certain districts is not an argument against the dealer's knowing his costs and having accounts uniform with the other dealers—indeed, it is an argument in favor of such accounts. How did the fuel commissioner of a certain territory arrange the price of coal for that territory? He procured figures of costs from the dealers themselves and from this information determined the selling price. It was required that all the dealers submit costs per ton, made up of cost of coal at dock, handling charges, degradation, delivery expense, wages, salaries, rent, depreciation and all other expenses, but the items entering into each expense classification were left to the interpretation of the individual dealer.

Now, remember that these dealers had not a uniform accounting system. What was the result? Some dealers knew how to ascertain the cost of degradation, i. e., loss in weight or conversion of one class of coal into a smaller and cheaper grade;

others did not. Some included as part of their delivery expense the depreciation on their trucks; others included such depreciation in depreciation on plant account and some ignored it completely; no two could be said to agree on the same rate. Some were able to calculate approximately the difference in delivery cost between coal delivered by chuting and coal carried. If the dealer operated under the corporate form his salary as an officer was included as expense; the dealer operating as a single proprietor or one of a co-partnership received no salary as such, and no salary was included in the expenses submitted. Some rented their yards; others owned them. Rent was included in the one case but not in the other—and so on. One can see from this how onerous the duties of fuel commissioner must have been, and, no matter how careful was his investigation, the price as finally determined from the average of the figures submitted necessarily worked a hardship in some cases.

As a matter of fact, we know that under normal conditions the retail price of coal and lumber varies, even in the same locality. If the prices are ever to come down it will be because one dealer can afford to charge lower rates than his competitors—not because he does. It is important to the public that the dealer charging the lower rate should at the same time make a fair profit, for price-cutting that has not a sound basis is dangerous to the consumer as well as to the trade. I believe that, following the general adoption by coal and lumber retailers of a plan of uniform accounting, intelligent competition would be one of the important results. All competition is not intelligent. I have said before that the ultimate consumer pays all the bills—unintelligent competition leaves many unpaid bills in its wake. By intelligent competition I mean reductions in rates brought about by economical administration.

Uniform accounting does not mean that each dealer should keep exactly the same accounts as his competitor, with no latitude to cover the needs peculiar to each one. It does mean, however, a thorough understanding of the items to be included under each expense classification, so that, from the accounts of each, operating costs may be prepared under classifications of expense that do not mean one thing for one dealer and something different for another. Briefly, the accounts of each should speak the same language.

To ensure to the dealer and his public all the benefits result-

ing from a system of uniform accounting, the trade association should require every member to compile, periodically, operating costs per ton spread over stated expense classifications. These unit prices should be compared and discussed at the meetings of the association.

For instance, when the delivery unit per ton for one dealer is read all the others know that every kind of expense they have included under that classification is embodied therein. Any real variation existing then between the dealers on this unit immediately raises an interesting and educational discussion as to the reason therefor. One dealer may have a large number of customers for whom coal can be chuted—his delivery rate per ton should be less than the one who has to carry most of his deliveries. It might be possible to use this information to determine for a special district a fair charge for carrying. Some interesting comparisons might be made, also, of the cost of delivery by motor or by horse-drawn trucks.

A comparison of unit costs under a uniform accounting plan, as read at an association meeting, removing from the minds of the retailers, as it would, any uncertainty as to what might be contained in the corresponding expense classifications of their competitors, presents an opportunity for really constructive work.

Still confining ourselves to the classification "delivery expense," it may be found that a wide variation exists in this unit between two dealers in the same district with approximately the same tonnage handled and other circumstances almost equal. The retailer with the higher cost can investigate his delivery expense until he discovers the particular item or items that are responsible. Having found the items that are high he can then investigate the cause. He may find that his competitor has the knack of handling his employees so that he receives from them the maximum of service; or that his competitor has a lower motor maintenance cost because he takes some practical precautions in the care of his trucks; or that his competitor plans his routing scientifically, whereas his own methods are haphazard. If, as a result of this investigation, the retailer with the higher delivery cost takes to himself the lessons he has learned and improves his delivery methods, who will say that he is the only one to derive benefit therefrom? Let us not forget who it is that pays for the mistakes of the retailer in every line of industry.

Depreciation Reserves and Rising Prices

By Ernest S. Rastall

In regard to reserves for depreciation of plant it has been argued that in times of rising prices operating expense should be charged with the expected cost of renewals, regardless of the original cost of the property, in order to maintain the plant in its physical condition and capacity as a producing agent.

It is pointed out that at such times income feels the stimulating effect of rising prices before costs do, and that therefore the increase of profits is apparent rather than real because costs must ultimately be met.

The contention is that generally speaking the purpose of reserving from profits an amount sufficient to cover depreciation is to maintain the physical plant and keep up production without drawing upon capital funds.

This argument insists that the increase in cost of replacement over original cost should not be added to capital account; that the only way to withhold from earnings sufficient to cover renewal costs is to charge operating account, and, failing in this, the only recourse is to draw upon capital funds through the issuance of new securities, presumably bonds, and that interest on these bonds will be an added expense burden upon future operations; that to do otherwise in times of rising prices constitutes a waste of capital and consequent loss of earning power and that if in the future a dollar will possess only half its present purchasing power the future stockholders should be provided with two dollars in the place of one.

For the stockholders to exercise a restraint upon extravagance and reserve a portion of their profits so newly and so easily acquired against a day of reckoning is commendable, but why should they do this under the guise of a reserve for depreciation of something that is already written off the books and from the standpoint of pure bookkeeping no longer exists? To set up a replacement reserve or even an enlargement reserve by a debit to surplus and a credit to reserve would be permissible, but it

would not be correct procedure to charge it to surplus via the operating route.

When prices are seen to be rising, prudent stockholders will, of course, reserve from earnings enough for replacement needs, but this should not all be charged to operation.

To charge operating with the expected cost of renewals, if that were greater than the original cost of the property consumed in service, would have the effect (a) of creating a reserve for depreciation larger than the property depreciated, (b) of affording the company a pretext for passing along to the consumer the cost of increasing the capital investment of the company in the form of a secret reserve, (c) of tempting future stockholders to reverse the whole procedure by reappraisement of the property by a debit to plant and a credit to surplus.

If a property which cost $5,000 and is estimated to last twenty years, is written off at the rate of 10 per cent per annum for twenty years, because it is expected that it will cost $10,000 to replace it at that time, the bookkeeping effect would be to show at the end of twenty years an asset of $5,000, and a reserve for depreciation of that identical asset of $10,000. Supposing the property to have actually worn out and disappeared, its place in the balance-sheet would have been filled by some other asset, probably of a very liquid nature, which the company could convert into another piece of property of double money worth if it wished. When purchased this would be charged to reserve account and cancel it, and the balance-sheet would still show an asset of $5,000, which actually cost $10,000.

There is a distinct difference between reserves for depreciation and reserves for renewals. The latter is a broader term; and while it does connote the same idea as the former up to a point where it equals the original cost, it connotes a very different idea after that point is passed.

If reserve is credited with $10,000 and replacement charged against it, the plant value stands on the balance-sheet unchanged at $5,000.

On the other hand, if reserve for depreciation is only $5,000, and if it is charged with $5,000 and plant is also charged with $5,000 at the time of replacement, the balance-sheet showing is then $10,000. An earning of 6 per cent on the former would be

but 3 per cent on the latter. It is apparent therefore that the latter position holds the stronger justification for a request for increase of rates charged to the public.

In the former case the future stockholder would be in a position to ask for a return upon an investment of $5,000, and in the latter $10,000. The status of the future stockholder in the former case is that he has fallen heir to a property worth $10,000 stated on the books at $5,000, and he would be sure to request a reappraisement on actual replacement cost values with a corresponding credit to surplus and to request an adequate return upon the full amount. This would then operate actually to reverse the entry which charged operating and credited reserve for depreciation.

If the replacement cost of such a property advanced at the rate of 5 per cent a year there would be no harm in debiting plant and crediting reserve with that amount, provided this addition to capital were not included when writing off subsequent depreciation.

A company that finds that through its reserves it has saved only enough liquid assets with which to repurchase the equivalent in money of its worn-out plant, but that to replace the equivalent physical property will require double that amount, faces the need of finding more capital either in the other savings expressed in surplus account or in the issuance of additional securities, either stock or bonds.

It must be borne in mind, however, that borrowed capital is the same as invested capital. Interest on bonds, if capital is secured that way, is not an expense burden upon operation, but a division of profits with those who furnish it.

While there remains $5,000 of the original invested capital, even though that be mere money value and not plant value, it is an error to say that the stockholders have been living on capital instead of income.

To charge operating with that part of an expected replacement cost which exceeds actual cost would be to understate actual profits and would in all probability, in the case of a public utility, give great license to those who are permitted to estimate the expected increase not only to pass on to the consumer the cost of increasing the actual invested capital but allow a return, the

purchasing power of which would be the same as in the days of lower prices. To permit this would be to put the stockholders of a company, which is thus able to pass along the burden to the consumer, in a position of great advantage over those whose investments did not permit of such a change, as, for instance, the widow who owns a 6 per cent mortgage or the owner of government bonds. To deduct the amount from income instead of from profit, would also give the possessor of such shares an unfair advantage in regard to income tax, for how could the widow maintain the purchasing power of her income and avoid a tax in any similar manner?

In other words, if the dollar has fallen in value, such people would have the advantage over those who are not able arbitrarily to increase the number of dollars of their investment and thus maintain an even purchasing power.

The iniquity of rising prices lies in the unevenness with which they rise. Those who are in a position to be the first to raise their prices thereby secure an advantage over others through the increase of purchasing power which it gives them. If all people were simultaneously to raise the prices of what they sell an equal percentage, no harm would result. The demand for war materials gave to certain manufacturers the opportunity not only to sell at higher prices but to sell materials which in ordinary times would be junk.

The demand for men in the army gave to the vendors of labor the next chance. Manufacturers were compelled to bid high for labor but saved themselves by passing the burden along (with a little added for their own comfort) to the consumer. When the laborer who thus received larger wages was the consumer no harm was done—the thing simply operated to tax him to pay himself. Those who were not in a position arbitrarily to increase their prices were the ones who paid the bill. The stockholders of companies which manufactured war supplies had the advantage over all others. The artisans in such factories had the advantage over other artisans who worked for the makers of "non-essentials." The artisan had the advantage over the office clerk, the school teacher and the widow with a small income and others not in a position arbitrarily to multiply the dollars of their invested capital.

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EDITORIAL

Advertising

No question is more generally the topic of discussion among accountants than the propriety or impropriety of advertising. During the past year there seems to have been a recrudescence of the advertising idea among certain members of the profession, and this magazine has received many inquiries from persons who deplore the prevalence of advertisement, but seem to dread the effects of it upon their own individual practice.

In the American Institute of Accountants matters of this kind are under the supervision of the committee on professional ethics, and in view of the wide-spread interest which is manifested in the question of advertising, the chairman of that committee was asked to express his opinions for publication.

We are glad to be able to publish the views of the chairman of the committee on professional ethics, and in doing so commend them to the earnest consideration of all accountants who are not sure that advertising is undesirable.

The opinion follows:

The question of the proper kind of publicity for a professional accountant has before now been discussed by this Journal. It is a question which is much in the mind of every accountant and cannot be too frequently discussed.

That the great preponderance of opinion among reputable accountants, leaders in their profession, is opposed to commercial advertising of all kinds is beyond question. That some able and competent practitioners—yes, even members of the institute—as well as many professional quacks and immature and ill-informed

members of the profession, deem it essential to advertise their wares in some form or another is unfortunately also true.

The specious arguments which are made in favor of advertising and publicity campaigns are sometimes presented in such alluring form as to silence, if not convince, those who know in their hearts that no calling or vocation can consistently aspire to a professional status and dignity while it countenances unprofessional and undignified practices. Oil and water will not mix—you cannot wed science to charlatanry without producing a sterile hybrid, and you cannot lay claim to membership in a profession while engaging in unprofessional practices. The things are incompatible—they cannot be reconciled, no matter how ingenious and eloquent the argument.

The following letter was recently received from a member of the institute:

SIR:—I am moved to write this letter because of the action of many accountants, some C P A's and members of the institute and others who are not.

There has been much recent discussion, oral and written, as to ethics in our profession, embracing among other things the question of advertising, circularizing and other forms of publicity.

In my twenty-five years of practice I know I have been as conservative as any member of the profession, and have watched the various forms of publicity and advertising by fellow accountants and witnessed the receipt by my own clients of all manner of circulars and pamphlets soliciting business, and have consistently stood firm in my attitude.

I am, however, at present, going through a period of deep thinking caused by methods and practices of other accountants, and am wondering whether I have been and am still too conservative in my ideas and methods, and whether I should adopt different methods by advertising, circularizing, etc., with a view to increasing my business—not that I am in need of more business, but merely for the purpose of having a larger business with a larger number of assistants and a larger suite of offices, all of which, of course, would mean more income.

My present state of mind is also caused by the fact that my son, now in practice with me after having been graduated from college and been in the service for more than two years, is very observing, ambitious and likes the profession, and tells me frequently I am, in his judgment, too conservative, when he observes the publicity of other accountants. We all must admit that many of them do secure considerable new business, and he is fired with the ambition to enlarge the field and build up a larger practice than we now have.

By this letter you will recognize that I am still conservative, by seeking the opinion of those whose opinions are worth while, instead of being carried away with the new ideas and undertaking a campaign of publicity.

I should appreciate a letter from you on the subject, or if you think it better to have it referred to the proper committee you may do so, and if it would make good material for an article for discussion in THE JOURNAL OF ACCOUNTANCY it might be of some service not only to myself but to many other members of the profession, because it must be a fact that many others

are doing some hard thinking along the same lines, and it seems to me this is as good a time as any other to have the matter discussed and handled in the dignified and commendable manner in which every subject is handled by the institute.

Also witness the numerous men leaving the service of the internal revenue bureau and advertising by letter and other means that they are now available to the business world, setting forth in glowing terms the wonderful and valuable work they are qualified to do.

The foregoing letter was followed by another several weeks later containing a dozen or more samples of newspaper clippings ranging from a one-inch card to a full-page display advertisement:

It reads:

Just a few samples of the kind of advertisements which are the cause of my recent letter to you.

Professional ethics—does not seem to be any such animal—and my long continued conservatism and dignified observance of ethics in the profession are weakening and waver more every day.

The foregoing correspondence parallels the line of argument so frequently made by those practitioners whose innate good taste and professional instincts would naturally lead them to refrain from such lurid methods, but who say to themselves: "The advertiser is depriving me of opportunities for my services and I must, in self-defence, climb the hill of printers' ink and shout my wares." How often have we heard this argument. And how seductive it is.

The discriminating public long ago learned properly to classify the advertising doctor, dentist, architect, engineer or lawyer—and yet there are alleged members of each profession who contribute to filling the advertising pages of our daily newspapers. Who among the readers of this editorial is ever allured into patronizing an advertising dentist? If there be one, we think he lost his way when he became a reader of this JOURNAL. It is not the type of man who reads this magazine to whom such publicity appeal is made. It may be that the business public has not yet quite reached the stage of discrimination it is in concerning the question of advertising practitioners of the older professions. The time is bound to come when it will be. Do you want to be among the leaders or among the laggers?

While it is true that many accountants, including members of the institute, do more or less advertising, the best opinion does not look with favor upon this practice. You are not likely to patronize an advertising doctor or lawyer, and the same reasons which would dissuade any member of these older professions

from commercializing his profession by promiscuous advertising should dissuade a member of our profession from resorting to such undignified procedure.

Consider for a moment what the result would be if every practitioner were to advertise to the same extent. What possible profit could ever flow to anyone except as the result of more skillful and conscientious work? The artistic and skillful advertiser may reap a momentary financial advantage at the expense of practitioners who do not advertise. We are sure that if he does it is quite likely to be at the expense of his professional reputation, and we take it that every accountant has quite as much regard for his professional reputation as for his financial success.

The accountant who advertises obtains business by this means solely because his advertisement does not come into competition with advertisements of his more dignified fellows. If all advertised, his advertisement would not attract the attention which it now does attract. If we admit this to be so, we place the advertising accountant in the position of taking advantage of his fellows.

This kind of thing may be good commercial practice, but does it add anything to the dignity and the fellowship of a profession? From this point of view, does not the advertising and soliciting accountant come pretty close to being a bandit or, in the vernacular of another profession, the "ambulance chaser" of the accounting profession?

However, the outstanding point about this whole matter is that either accountancy is a profession or it is not a profession. Its practitioners will, therefore, have to choose which it shall be. If it is to be a profession, it must adopt professional practices. If it is to be a trade, advertise and shout your wares from the house tops, but do not delude yourself into the belief that you are a member of a dignified and learned profession.

"Time at last sets all things even," and the writer has an abiding faith that in the long run the accountant who steers his own northwest course and keeps to the charted channels will have quite as successful a voyage as though he departed from the approved and tested routes and sought a short-cut to professional success.

Income-Tax Department

EDITED BY JOHN B. NIVEN

New forms for 1919 income-tax returns will without doubt be in the hands of collectors before this number reaches its readers. There is no new consolidated issue of the regulations, but all the amendments and revisions of regulations 45 which have been promulgated up to December 2, 1919, since the bound copies of that volume were issued April 17, 1919—all of these amendments have been published in these pages—have been issued in pamphlet form as *Addenda to Regulations 45*, and should be procurable from local collectors.

LIBERTY BOND EXEMPTIONS

The subject of taxable interest on Liberty bonds offers some complications. A table describing the various issues and showing the different exemptions in graphic form has been drawn up and is presented herewith. It shows those exemptions which are "specific," applicable to a single issue only, and those which are "group" exemptions or "joint and several." "Group" exemptions are either "conditional" or "unconditional." Unconditional group exemptions and specific exemptions are valid whether the bonds on which the interest is received or any other holdings of bonds are still retained or have been sold. Conditional exemptions depend upon the retention, at the time the taxpayer's return is rendered, of originally subscribed fourth or Victory loan bonds.

Taxable interest should be calculated on the accrual basis, even though credited on the books of the taxpayer only as collected. If the instructions for the calculation contained in the income-tax blanks are followed literally, the throwing of the difference between the taxable interest and the book interest into the income reconciliation—it may be an addition to book income as well as a deduction therefrom—automatically adjusts the taxable income to the accrual basis, regardless of the method used in the books.

TREASURY DECISIONS

It may not be generally realized that income-tax returns are "public records and . . . open to inspection as such." This is in section 257 of the revenue act of 1918; but the accessibility is more apparent than real, being possible "only upon the order of the president, under rules and regulations to be prescribed by the secretary of the treasury and approved by the president."

The new treasury decisions are largely taken up with the regulations formulated under this proviso, prescribing, first, who may have access to income-tax returns for the purpose of inspection, and under what conditions, and, second, to whom copies of returns may be furnished. (T. D.'s 2961-2.)

The maker of a return is always entitled to a copy of his return, but

TABLE OF LIBERTY BONDS AND

The maximum exemptions indicated are from "additional" taxes; that is, individual surtaxes and corporation excess-profits and war-profits taxes.
All issues are exempt from (normal) income tax.
3½% bonds (first issue) } are also exempt
3¾% notes (Victory loan) } from all "additional" taxes.

Issue	Description of issue	Date of issue or conversion
First 3½'s	Original issue	June 15, 1917
First converted 4's	First 3½'s converted into second 4's	Nov. 15, 1917
First converted 4¼'s	First 3½'s converted into third 4¼'s issue of May 9, 1918	May 9, 1918
Second 4's	Original issue	Nov. 15, 1917
Second converted 4¼'s	Second 4's converted into third 4¼'s issue of May 9, 1918	May 9, 1918
Third 4¼'s	Original issue	May 9, 1918
Fourth 4¼'s	Original issue	Oct. 24, 1918
First Liberty second converted 4¼'s.	First 3½'s converted into fourth 4¼'s, issue of Oct. 24, 1918	Oct. 24, 1918
Treasury certificates		
War savings certificates		
Victory loan 4¾'s	Original issue	May 20, 1919
Victory 3¾'s	Victory 4¾'s converted into Victory 3¾'s	May 20, 1919

DURATION OF EXEMPTIONS

Exemptions begin		Exemptions terminate	
(a)	With date of respective issues	(d)	2 years after end of war
		(e)	5 years after end of war
(b)	January 1, 1918	(f)	At termination of life of Victory loan notes on which based.
(c)	January 1, 1919	(g)	Unlimited (during life or holding of respective issues.)

the right of inspection granted others also includes the right to copy or to extract data from the return. Besides the maker and the necessary officers and employees of the treasury department, the right of inspection extends

MAXIMUM TAX EXEMPTIONS THEREON

4¾% notes (Victory loan) are entitled to *no* exemption from "additional" taxes.

4% and 4¼% bonds are exempt from "additional" taxes to the extent indicated in the table.

Specific exemptions:
Applicable to a single issue only.

Group exemptions:
Applicable to all or any issue of the group indicated.

Interest due	Maturity	MAXIMUM EXEMPTIONS			
		SPECIFIC	GROUP		
			Unconditional	Conditional	
Jun. 15 Dec. 15	June 15 1932–1947	All			
June 15 Dec. 15	June 15 1932–1947				Conditional on original subscription to and continued holding at date of (making) tax return of:
June 15 Dec. 15	June 15 1932–1947				
May 15 Nov. 15	Nov. 15 1927–1942		$30,000. (c) (e)	$45,000. (b) (d)	Two-thirds as many bonds of the Fourth Liberty loan.
May 15 Nov. 15	Nov. 15 1927–1942				
Mar. 15 Sept. 15	Sept. 15 1928				
April 15 Oct. 15	Oct. 15 1933–1938	$30,000. (a) (d)			
June 15 Dec. 15	June 15 1932–1947	30,000. (a) (d)		$20,000. (c) (f)	One-third as many bonds of the Victory Liberty loan.
			5,000. (a) (g)		
June 15 Dec. 15	May 20, 1923, redeemable at option of U. S. June 15 or Dec. 15, 1922	None	None	None	
June 15 Dec. 15	May 20, 1923, redeemable at option of U. S. June 15 or Dec. 15, 1922	All			
		$60,000.	$35,000.	$65,000.	

RECAPITULATION: TOTAL POSSIBLE EXEMPTIONS

	Prior to Jan. 1, 1919	Additional beginning Jan. 1, 1919	Total from Jan. 1, 1919
Specific	$ 60,000.	$	$ 60,000.
Unconditional	5,000.	30,000.	35,000.
Conditional	45,000.	20,000.	65,000.
	$110,000.	$50,000.	$160,000.

to a duly constituted attorney in fact, an administrator, executor, trustee or his attorney, and under certain conditions to an heir at law or next of kin. A stockholder holding as little as one per cent of a corporation's stock

may, under section 257 of the law, examine the return of his corporation; but he must satisfy the department as to the bona-fides of his request and must apply in person only, not by proxy.

Whether departments of the government other than the treasury may be granted the privilege of inspection depends on the conditions in each case; but the United States is free to use the returns in litigation, this right being implicit in their status of "public records." The privilege of states "imposing an income tax" of having access to the returns is also contained in the law, section 257.

A taxpayer who received all in one year a sum of money not previously agreed on as compensation for services over a period of years has been obliged to report the entire amount as income for the year in which it was received, and the assessment has been confirmed by a decision of the United States district court. The case depended on the fact that the taxpayer kept no books of account, under which conditions the revenue act of 1918 states the computation of income shall be made in such a manner "as in the opinion of the commissioner does clearly reflect the income," and the commissioner's relevant "opinion" is set forth in article 32 of regulations 45: "where no determination of compensation is had until the completion of the service the amount received is income for the calendar year of its determination." (See T. D. 2960.)

Where, in cases of corporate "reorganization," new stock of no greater par value than the old stock is received in exchange for it, there is (section 202b) no gain or loss at the time; but the gain or loss is determined on subsequent sale of the stock, as explained in article 1568. This article has been amplified in T. D. 2963 to provide for allocation of the cost (or March 1, 1913, value) of the original securities to the different classes of new securities, if more than one class is issued; the allocation being made in proportion to the relative market values of each class of securities as compared with the total market value.

TREASURY RULINGS

(T. D. 2960, January 7, 1920)

Income Tax—Decision of Court

Jackson v. Smietanka (U. S. district court, December, 1919)

WHEN INCOME TAXABLE.

A taxpayer who keeps no books of account, and to whom is paid, upon the termination of services extending over a period of years, a lump sum in amount not previously agreed upon, as compensation for such services, must return as income in the year in which received, the entire amount so paid him, even when such payment is accompanied by a statement proportioning the compensation over the years in which the services were rendered.

The appended decision of the United States district court for the eastern

division of the northern district of Illinois, in the case of *Jackson v. Smietanka,* is published not as a ruling of the treasury department, but for the information of internal-revenue officers and others concerned.

UNITED STATES DISTRICT COURT, EASTERN DIVISION OF NORTHERN DISTRICT OF ILLINOIS. No. 33109

William J. Jackson v. *Julius F. Smietanka, collector of the United States internal revenue, first district of Illinois*

PAGE, circuit judge: This is a demurrer to the declaration.

The sole question involved in this case is, Was plaintiff erroneously taxed under the revenue law of 1918, or should he have been taxed under the several laws of the years 1913 to 1918, as plaintiff contends, on an income received as follows:

Plaintiff was on May 27, 1913, appointed a receiver of the C. & E. I. R. R. Co. and served until April 27, 1918, for which he received under the order of the district court, dated August 4, 1913, $2,000 per month, commencing July, 1913, to be received on account, with the liberty on his discharge to apply for further compensation. When he resigned a general order was entered, on April 27, 1918, allowing him an additional compensation of $100,000. That general order was amended by order of April 22, 1919, as follows:

That said services of said William J. Jackson as receiver were rendered continuously from May 27, 1913, to and including April 27, 1918, and the compensation therefor now allowed was earned and accrued as follows: In the year 1913, $12,144.85; in the year 1914, $20,334.26; in the year 1915, $20,334.26; in the year 1916, $20,334.26; in the year 1917, $20,334.26; in the year 1918, $6,518.11.

That amendment was entered as of April 27, 1918. The petition for the amended order was filed and the order made long after the tax was assessed. The government was not a party thereto.

Plaintiff cites section 206 of the revenue law of 1918 as a basis for his contention, and says, "If that section cannot reasonably be applied to such a case as that of plaintiff, we ask to what sort of a case it does apply?" Article 1641 of treasury department regulations 45, under the revenue act of 1918, says that section 206 refers to other and wholly different matters, and this interpretation is supported, and in the opinion of the court conclusively, by sections 201 and 205 of the same act, in the former of which direct reference is made to said section 206.

After specifying in detail what the gross income includes, section 213 provides:

The amount of all such items shall be included in the gross income for the taxable year in which *received* by the taxpayer, unless, under methods of accounting permitted under subdivision (b) of section 212, any such amounts are to be properly accounted for as of a different period.

Subdivision (b) of section 212 provides:

The net income shall be computed upon the basis of taxpayer's annual accounting period * * * in accordance with the method of accounting regularly employed in keeping the books of such taxpayer.

Plaintiff kept no books, so that clause does not apply. It further provides that—

If no such method of accounting has been so employed, or if the method employed does not clearly reflect the income, the computation shall be made upon such basis and in such manner *as in the opinion of the commissioner does clearly reflect the income.*

The only language which might apply to plaintiff is—

If no such method of accounting has been so employed * * * computation shall be made upon such basis and in such manner as in the opinion of the commissioner does clearly reflect the income.

This seems to leave the burden upon the plaintiff here to show that the method of accounting insisted upon by him has been prescribed as a basis by the commissioner.

Article 52 of regulations 45 provides:

Gains, profits and income are to be included in the gross income for the taxable year in which they are received by the taxpayer, unless they are included when they accrue to him in accordance with the approved method of accounting followed by him.

Article 32 of said regulations 45 states:

Where no determination of compensation is had until the completion of the services, the amount received is income for the calendar year of its determination.

The demurrer is sustained.

(T. D. 2961, January 7, 1920)

Inspection of Returns

Regulations governing the inspection of returns of individuals, partnerships, corporations, associations, joint-stock companies, and insurance companies made pursuant to the requirements of section 2 of the tariff act of October 3, 1913; title I of the revenue act of 1916; title II of the revenue act of 1917; and titles II and III and section 1000, title X, of the revenue act of 1918. Former regulations bearing on the same subject superseded.

Section 2 of the tariff act of October 3, 1913, imposes an income tax on individuals, corporations, joint-stock companies or associations, and insurance companies, and paragraph G (d) of said section provides:

When the assessment shall be made, as provided in this section, the returns, together with any corrections thereof which may have been made by the commissioner, shall be filed in the office of the commissioner of internal revenue, and shall constitute public records and be open to inspection as such: provided, that any and all such returns shall be open to inspection only upon the order of the president, under rules and regulations to be prescribed by the secretary of the treasury and approved by the president: * * *

Title I of the revenue act of 1916 imposes an income tax on individuals, corporations, joint-stock companies or associations, and insurance companies, and section 14 (b) of said title provides:

When the assessment shall be made, as provided in this title, the returns, together with any corrections thereof which may have been made by the commissioner, shall be filed in the office of the commissioner of internal revenue, and shall constitute public records and be open to inspection as such: provided, that any and all such returns shall be open to inspection only upon order of the president, under rules and regulations to be prescribed by the secretary of the treasury and approved by the president: * * *

Title II of the revenue act of 1917 imposes a war excess profits tax on individuals, partnerships, corporations, joint-stock companies or associations, and insurance companies, and section 212 of said title provides:

That all administrative, special, and general provisions of law, including the laws in relation to the assessment, remission, collection, and refund of internal-revenue taxes not heretofore specifically repealed, and not inconsistent with the provisions of this title, are hereby extended and made applicable to all the provisions of this title and to the tax herein imposed, and all provisions of title I of such act of September eighth, nineteen hun-

dred and sixteen, as amended by this act, relating to returns and payment of the tax therein imposed, including penalties, are hereby made applicable to the tax imposed by this title.

Title II of the revenue act of 1918 imposes an income tax on individuals, associations, joint-stock companies, and insurance companies, and section 257 of said title provides:

That returns upon which the tax has been determined by the commissioner shall constitute public records; but they shall be open to inspection only upon order of the president and under rules and regulations prescribed by the secretary and approved by the president. * * *

Title III of the revenue act of 1918 imposes a war profits and excess-profits tax on corporations, associations, joint-stock companies, and insurance companies, in addition to other taxes imposed by the act, and section 336 of said title provides:

That every corporation, not exempt under section 304, shall make a return for the purposes of this title. Such returns shall be made, and the taxes imposed by this title shall be paid, at the same times and places, in the same manner, and subject to the same conditions, as is provided in the case of returns and payment of income tax by corporations for the purposes of title II, and all the provisions of that title not inapplicable, including penalties, are hereby made applicable to the taxes imposed by this title.

Section 1000, title X, of the revenue act of 1918 imposes on corporations a special excise tax with respect to carrying on or doing business, and subdivision (d) of said section provides:

Section 257 shall apply to all returns filed with the commissioner for purposes of the tax imposed by this section.

Pursuant to these provisions of law the president orders that returns of individuals, partnerships, associations, joint-stock companies, and insurance companies filed under the provisions of section 2 of the tariff act of October 3, 1913; title I of the revenue act of 1916; title II of the revenue act of 1917; and titles II and III and section 1000 of title X, of the revenue act of 1918, or under laws hereafter enacted in substitution or amendment of the income tax or capital stock tax provisions thereof and not inconsistent herewith, shall be open to inspection in accordance and upon compliance with the following rules and regulations:

1. These regulations deal only with *inspection* of returns, as the statutes expressly require the approval of the president of regulations on this subject. Other uses to which returns may be lawfully put, without action by the president, are not covered by these regulations.

2. The word "corporation" when used alone herein shall, unless otherwise indicated, include corporations, associations, joint-stock companies, and insurance companies. The word "return" when so used shall, unless otherwise indicated, include income and profits tax returns; and also special excise tax returns of corporations filed pursuant to section 1000, title X, of the revenue act of 1918.

3. Written statements filed with the commissioner of internal revenue designed to be supplemental to and to become a part of tax returns shall be subject to the same rules and regulations as to inspection as are the tax returns themselves.

4. Except as hereinafter specifically provided, the commissioner of internal revenue may, in his discretion, upon written application setting forth fully the reasons for the request, grant permission for the inspection of returns in accordance with these regulations. The application will be considered by the commissioner and a decision reached by him whether the applicant has met the conditions imposed by these regulations and whether the reasons advanced for permission to inspect are sufficient to permit the inspection. Such written application is not required of the officers and

employees of the treasury department whose official duties require inspection of a return, or of the solicitor of internal revenue.

5. The return of an individual shall be open to inspection as follows:

(*a*) By the officers and employees of the treasury department whose official duties require such inspection and by the solicitor of internal revenue; (*b*) by the person who made the return, or by his duly constituted attorney in fact; (*c*) by the administrator, executor, or trustee of the taxpayer's estate, or by the duly constituted attorney in fact of such administrator, executor, or trustee, where the maker of the return has died; and (*d*) in the discretion of the commissioner of internal revenue, by one of the heirs at law or next of kin of such deceased person upon showing that he has a material interest which will be affected by information contained in the return.

6. A joint return of a husband and wife shall be open to inspection (*a*) by the officers and employees of the treasury department whose official duties require such inspection, and by the solicitor of internal revenue; and (*b*) by either spouse for whom the return was made, or his or her duly constituted attorney, upon satisfactory evidence of such relationship being furnished.

7. The return of a partnership shall be open to inspection (*a*) by the officers and employees of the treasury department whose official duties require such inspection and by the solicitor of internal revenue; and (*b*) by any individual (or his duly constituted attorney in fact or legal representative) who was a member of such partnership during any part of the time covered by the return, upon satisfactory evidence of such fact being furnished.

8. The return of a corporation shall be open to inspection (*a*) by the officers and employees of the treasury department whose official duties require such inspection and by the solicitor of internal revenue; (*b*) upon satisfactory evidence of identity and official position, by the president, vice-president, secretary or treasurer of such corporation, or, if none, its principal officer; and (*c*) by a stockholder of such corporation as provided in paragraph 9 hereof.

9. A stockholder of record owning 1 per cent or more of the stock of the outstanding stock of a corporation may be permitted to inspect its return. Such permission will only be granted upon an application in writing to the commissioner of internal revenue accompanied by an affidavit showing applicant's address, the name of the corporation, the period of time covered by the return he desires to inspect, and a certificate from the officials of the corporation, or other satisfactory evidence showing the amount of the corporation's outstanding capital stock, the number of shares owned by the applicant, the date when such stock was acquired, and satisfactory proof of identity. This privilege of inspection is personal and will be granted only to the stockholder. This rule has no application to the return of a corporation filed pursuant to the revenue act of 1918, specific provision, independent of presidential regulation, being made in that act for inspection by a stockholder of a return of a corporation filed thereunder (second proviso of sec. 257).

10. When the head of an executive department (other than the treasury department) or of any other United States government establishment, desires to inspect or to have some other officer or employee of his branch of the service inspect a return in connection with some matter officially before him, the inspection may, in the discretion of the secretary of the treasury, be permitted upon written application to him by the head of such executive department or other government establishment. The application must be signed by such head and must show in detail why the inspection is desired, the name and address of the taxpayer who made the return, and the name and official designation of the one it is desired shall inspect the return.

When the head of a bureau or office in the treasury department, not a part of the internal revenue bureau, desires to inspect a return in connection with some matter officially before him other than an income, profits tax or corporation excise tax matter, the inspection may, in the discretion of the secretary, be permitted upon written application to him by the head of such bureau or office, showing in detail why the inspection is desired. The reasons submitted for permission to inspect as provided in this paragraph shall be considered by the secretary and a decision reached by him whether the reasons are sufficient to permit the inspection.

11. When it becomes necessary for the department to furnish returns or copies thereof for use in legal proceedings, inspection of such returns or copies that necessarily results from such use is permitted.

12. Except as provided in paragraph 11, returns may be inspected only in the office of the commissioner of internal revenue, Washington, District of Columbia.

13. A person who, under these regulations, is permitted to inspect a return may make and take copy thereof or a memorandum of data contained therein.

14. By section 3167, *Revised Statutes,* as amended by the revenue act of 1918, it is made a misdemeanor for any person to print or publish in any manner whatever not provided by law any income return, or any part thereof, or source of income, profits, losses, or expenditures appearing in any income return, which misdemeanor is punishable by a fine not exceeding $1,000 or by imprisonment not exceeding one year, or both, at the discretion of the court; and if the offender be an officer or employee of the United States, by dismissal from office or discharge from employment.

15. All former regulations bearing on the subject of inspection of returns are hereby superseded.

16. These regulations shall remain in force until expressly withdrawn or overruled.

(T. D. 2962, January 7, 1920)

Regulations governing the furnishing of copies of income returns; the giving to state officials access to income returns of corporations, associations, joint-stock companies, and insurance companies; the examination by a stockholder of the annual income returns of a corporation made pursant to titles II and III and section 1000, title X, of the revenue act of 1918.

I. Furnishing of Copies of Income Returns

No specific provision is made in the statutes for furnishing a copy of an income return to anyone. Authority to permit inspection does not carry with it authority to furnish a copy. Implied authority to furnish a copy is contained in several provisions of law constituting returns public records, and in sections 161 and 251, *Revised Statutes,* which confer upon the secretary of the treasury broad power to make rules and regulations concerning "custody, use, and preservation of the records, papers, and property" of the department and the enforcement of the internal-revenue laws. Because of the provisions contained in section 3167, *Revised Statutes,* as amended by the revenue act of 1918, making it unlawful for any officer or employee of the United States "to divulge or to make known in any manner whatever not provided by law to any person * * * the amount or source of income, profits, losses, expenditures, or any particular thereof, set forth or disclosed in any income return, or to permit any income return or copy thereof or any book containing any abstract or particulars thereof to be seen or examined by any person except as provided by law"; and also unlawful "for any person to print or publish in any manner whatever not provided by law any income return, or any part thereof, or source of income,

profits, losses, or expenditures appearing in any income return"; a copy of an income return cannot be furnished, except as provided by law, to anyone except the person or persons who made the return. Furnishing the maker with a copy of his return is not a divulging of information contained therein to any person, within the meaning of section 3167, *Revised Statutes,* as amended. There are numerous provisions in the statutes constituting the doing or failure to do certain things offensive against the United States, and providing for collecting unpaid taxes by suits in court and for bringing suits to recover taxes and penalties wrongfully collected. These provisions would be of no avail were it held that the returns themselves, or certified copies thereof provided for in section 882, *Revised Statutes,* could not be used by the government as evidence in such litigation or in preparation for same. Manifestly congress did not, when it enacted section 3167, *Revised Statutes,* intend to defeat prosecutions and suits in court for which it has specifically provided.

Income returns filed with the department are public records of the department, and public records in the treasury department are of right available as evidence in litigation in court unless there is some statute making it unlawful to use them as such. (*Winn v. Patterson,* 9 Pet., 663, 677; *Evanston v. Gunn,* 99 U. S., 660; 17 Cyc., 306; *Williams v. Conger,* 125 U. S., 397, 410; *Iron Silver Min. Co. v. Campbell,* 135 U. S., 286, 298; *Oakes v. U. S.,* 174 U. S., 778; *Texas, etc., Ry. Co. v Swearingen,* 196 U. S., 51, 60.) As, therefore, the use of income returns or copies thereof in connection with litigation in court, where the United States government is interested in the result, is provided for by law, such returns or copies may be furnished for such use without a violation of the provisions of section 3167, *Revised Statutes,* as amended.

The following rules and regulations are therefore prescribed:

1. The original income return of an individual, partnership, corporation, association, joint-stock company, insurance company, or fiduciary, or a copy thereof, may be furnished by the commissioner of internal revenue to a United States attorney for use as evidence before a United States grand jury or in litigation in any court, where the United States is interested in the result, or for use in the preparation for such litigation, or to an attorney connected with the department of justice designated by the attorney general to handle such matters, if and when the attorney general states to the commissioner in writing that such attorney is so designated. When an income return or copy thereof is thus furnished, it must be limited in use to the purpose for which it is furnished, and is under no conditions to be made public except where publicity necessarily results from such use. In case the original return is necessary, it shall be placed in evidence by the commissioner of internal revenue or by some other officer or employee of the internal-revenue bureau designated by the commissioner for that purpose, and after it has been placed in evidence it shall be returned to the files in the office of the commissioner in Washington. An original return will be furnished only in exceptional cases, and then only when it is made to appear that the ends of justice may otherwise be defeated. Neither the original nor a copy of an income return desired for use in litigation in court where the United States government is not interested in the result and where such use might result in making public the information contained therein will be furnished, except as otherwise provided in the next succeeding paragraph.

2. A copy of an income return may be furnished by the commissioner of internal revenue to the person who made the return or to his duly constituted attorney, or, if the person is deceased, to his executor or administrator; or if the entity is in the hands of a receiver, trustee in bankruptcy, guardian, or similar legal custodian, to the receiver, trustee, or other similar custodian upon written application for same, accompanied by satisfactory

evidence that the applicant comes within this provision. "The person who made the return" as herein used refers in the case of an individual return to the individual whose return is desired, and in the case of a return of a corporation, association, joint-stock company, insurance company, or fiduciary to the corporation, association, joint-stock company, or fiduciary, a copy of whose return is desired. A corporation may also designate by proper action of its board of directors the officer or individual to whom a copy of a return made by the corporation may be furnished, and upon sufficient evidence of such action and of the identity of the officer or individual, a copy may be furnished to such person. A copy of a partnership income return will be furnished to the partners only in case all the partners join in the request therefor, it matters not what particular partner or officer of the partnership made the return. If the partnership has been dissolved, the members surviving may be furnished a copy if all the members surviving join in the request.

3. All former regulations bearing on the subjects herein covered are hereby superseded.

II. Giving to State Officials Access to Income Returns of Corporations, Associations, Joint-Stock Companies, and Insurance Companies

Section 2 of the tariff act of October 3, 1913, imposes an income tax on corporations, joint-stock companies or associations, and insurance companies, and requires them to file income returns. Paragraph G (d) of said section provides, among other things:

That the proper officers of any state imposing a general income tax may, upon the request of the governor thereof, have access to said returns, or to an abstract thereof showing the name and income of each such corporation, joint-stock company, association, or insurance company, at such times and in such manner as the secretary of the treasury may prescribe.

Title I of the revenue act of 1916 imposes an income tax on corporations, joint-stock companies or associations, and insurance companies, and requires them to file income returns. Section 14 (b) of said title provides, among other things:

That the proper officers of any state imposing a general income tax may, upon the request of the governor thereof, have access to said returns or to an abstract thereof, showing the name and income of each such corporation, joint-stock company or association, or insurance company, at such times and in such manner as the secretary of the treasury may prescribe.

Title II of the revenue act of 1917 imposes a war excess profits tax on corporations, joint-stock companies or associations, and insurance companies, and section 212 of said title provides:

That all administrative, special, and general provisions of law, including the laws in relation to the assessment, remission, collection, and refund of internal revenue taxes not heretofore specifically repealed, and not inconsistent with the provisions of this title, are hereby extended and made applicable to all the provisions of this title and to the tax herein imposed, and all provisions of title I of such act of September 8, 1916, as amended by this act relating to returns and payment of the tax therein imposed, including penalties, are hereby made applicable to the tax imposed by this title.

Title II of the revenue act of 1918 imposes an income tax on corporations, associations, joint-stock companies, and insurance companies, and requires them to file income returns. Section 257 of said title provides, among other things:

That the proper officers of any state imposing an income tax may, upon

the request of the governor thereof, have access to the returns of any corporation, or to an abstract thereof showing the name and income of the corporation, at such times and in such manner as the secretary may prescribe.

Section I of title I of said revenue act of 1918 provides:

That when used in this act * * * the term "corporation" includes associations, joint-stock companies, and insurance companies.

Title III of the revenue act of 1918 imposes a war profits and excess profits tax on corporations, associations, joint-stock companies, and insurance companies, in addition to other taxes imposed by the act, and section 336 of said title provides:

That every corporation not exempt under section 304 shall make a return for the purposes of this title. Such returns shall be made, and the taxes imposed by this title shall be paid, at the same times and places, in the same manner, and subject to the same conditions as is provided in the case of returns and payment of income tax by corporations for the purposes of title II; and all the provisions of that title not inapplicable, including penalties, are hereby made applicable to the taxes imposed by this title.

Section 1000, title X, of the revenue act of 1918 imposes on corporations a special excise tax with respect to carrying on or doing business, and subdivision (d) of said section provides:

Section 257 shall apply to all returns filed with the commissioner for purposes of the tax imposed by this section.

Pursuant to the authority contained in these provisions of law or under laws heretofore enacted in substitution or amendment thereof and not inconsistent herewith the following rules and regulations are prescribed:

1. The proper officers of a state imposing an income tax are entitled as of right upon the request of its governor to have access to the income and profits tax returns of a corporation, association, joint-stock company, or insurance company, or to an abstract thereof, showing its name and income. Proper officers in this connection are only those officers of the state who are charged with the enforcement of the state income-tax law and who are to use the information gained by the access only in connection with such enforcement.

2. The request or application of the governor must be in writing signed by him under the seal of his state and must show:

(*a*) That the state imposes an income tax.

(*b*) The name and address of the corporation, association, joint-stock company, or insurance company making the returns to which access is desired.

(*c*) Why access is desired.

(*d*) The names and official positions of the officers designated to have the access.

(*e*) That such designated officers are charged with the enforcement of the state income-tax law.

(*f*) That the information to be gained by the access is to be used only in connection with such enforcement.

3. The request or application of the governor may be addressed either to the secretary of the treasury or to the commissioner of internal revenue, but should be transmitted to the commissioner, who will set a convenient time for the access to the returns (or to an abstract thereof as he may determine).

4. Access shall be given only in the office of the commissioner of internal revenue in Washington.

5. The officers designated by the governor will not be permitted to name another person or persons to examine the returns (or abstracts) for them.

6. The officers designated will be given access only to the returns of those corporations, associations, joint-stock companies, or insurance companies organized or doing business in their state.

7. The officers designated may have access to lists furnished to supplement and become a part of the returns to which they are given access.

8. The proper officers, as defined in paragraph 1, may have access to the capital stock tax returns filed under the provisions of section 1000 of the revenue act of 1918 under the same conditions prescribed in the preceding paragraph for access to the income and profits tax returns of corporations, associations, joint-stock companies, and insurance companies. This right does not extend to the examination of capital stock tax returns filed pursuant to prior acts of congress.

9. All former regulations bearing on the subjects herein covered are hereby superseded.

III. Examination by a Stockholder of the Annual Income Returns of a Corporation Made Pursu.nt to Titles II and III and Section 1000, Title X, of the Revenue Act of 1918

Title II of the revenue act of 1918 imposes an income tax on corporations and requires them to file income returns. Section 257 of said title provides, among other things:

That all bona fide stockholders of record owning 1 per cent or more of the outstanding stock of any corporation shall, upon making request of the commissioner, be allowed to examine the annual income returns of such corporation and of its subsidiaries. Any stockholder who, pursuant to the provisions of this section, is allowed to examine the return of any corporation, and who makes known in any manner whatever not provided by law the amount or source of income, profits, losses, expenditures, or any particular thereof, set forth or disclosed in any such return, shall be guilty of a misdemeanor and be punished by a fine not exceeding $1,000, or by imprisonment not exceeding one year, or both.

Title III of the revenue act of 1918 imposes a war profits and excess profits tax on corporations, in addition to other taxes imposed by the act, and section 336 of said title provides:

That every corporation not exempt under section 304 shall make a return for the purposes of this title. Such returns shall be made, and the taxes imposed by this title shall be paid, at the same times and places, in the same manner, and subject to the same conditions, as is provided in the case of returns and payment of income tax by corporations for the purposes of title II; and all the provisions of that title not inapplicable, including penalties, are hereby made applicable to the taxes imposed by this title.

Section 1000, title X, of the revenue act of 1918 imposes on corporations a special excise tax with respect to carrying on or doing business, and subdivision (*d*) of said section provides:

Section 257 shall apply to all returns filed with the commissioner for purposes of the tax imposed by this section.

Pursuant to these provisions of law and any other laws that may be hereafter enacted in substitution or amendment thereof and not inconsistent herewith, a bona fide stockholder of record owning 1 per cent or more of the outstanding stock of a corporation shall be entitled as of right, upon making request of the commissioner of internal revenue, to examine the annual income returns of such corporation and of its subsidiaries made under titles II and III of the revenue act of 1918, and all returns of corporations filed for purposes of the tax imposed by section 1000, title X, of said act. His request for permission to examine such returns must be made in writing and must be in the form of an affidavit showing his address, the name of the corporation, the period of time covered by the return he desires to inspect, the amount of the corporation's outstanding capital stock, the number of shares owned by him, the date when he acquired them, and

whether he has the beneficial as well as the record title to such shares. It must also show that he has not acquired his shares for the purpose of the examination of the income returns of the corporation. If he has acquired them for this purpose he is not a bona fide stockholder within the meaning of the statute. The application must be supported by satisfactory evidence showing that the applicant is a bona fide stockholder of record of the required amount of stock of the corporation. The supporting evidence may be partly in the form of a certificate signed by the president or vice-president of the corporation, and countersigned by the secretary under the corporate seal. Upon being satisfied from the evidence presented that the applicant has fully met these conditions the commissioner will grant the permission to examine the returns and set a convenient time for the examination in the office of the commissioner. This privilege is personal and will be granted only to the stockholder, who cannot delegate it to another.

All former regulations bearing on this subject are hereby superseded.

IV. Inspection of Returns in All Other Cases is Governed by Presidential Order and Regulations, to Which Reference is Made

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(T. D. 2963, January 12, 1920)

Revenue act of 1918—*Amendment of article* 1568 *of Regulations* 45

Article 1568 of regulations 45 is hereby amended to read as follows:

Art. 1568. *Determination of gain or loss from subsequent sale.*—The new stock and securities received as described in the preceding article take the place of the old stock and securities. For the purpose, therefore, of ascertaining the gain derived or loss sustained from the subsequent sale of any stock of A or of the consolidated corporation, so received, the original cost to the taxpayer or the fair market value as of March 1, 1913, of the stock of B or A in respect of which the new stock was issued, less any untaxed distribution made to the taxpayer by A out of the former capital or surplus of B, or by the consolidated corporation out of the former capital or surplus of A or B, is the basis for determining the amount of such gain or loss. When securities of a single class are exchanged for new securities of the same total par value but of different classes, for purposes of determining profit or loss on subsequent sale of any of the new securities, the proportion of original cost (or value as of March 1, 1913) to be allocated to each class of new securities is that proportion which the market value of the particular class bears to the market value of all securities received on the date of the exchange. For example, if 100 shares of common stock, par value $100, are exchanged for 50 shares of preferred and 50 shares of common each of $100 par value, and the cost of the old stock was $250 per share, or $25,000, but the market value of the preferred on the date of exchange was $110 per share, or $5,500 for the 50 shares, and the market value of the common was $440 per share, or $22,000 for the 50 shares of common, one-fifth of the original cost, or $5,000, would be regarded as the cost of the preferred and four-fifths, or $20,000, as the cost of the common. Similarly, the cost after reorganization, merger, or consolidation of the assets of A or of the consolidated corporation is the sum of the cost (or the fair market value as of March 1, 1913) of the assets of A and of B for the purpose of ascertaining the gain or loss upon a subsequent sale. The new invested capital of A or of the consolidated corporation is to be determined as if A and B were rendering a consolidated return as affiliated corporations. See sections 240 and 326 of the statute and articles 631-638 and 864-869.

Students' Department

EDITED BY SEYMOUR WALTON
(ASSISTED BY H. A. FINNEY)

AMERICAN INSTITUTE EXAMINATION, NOVEMBER, 1919

In regard to the following attempt to present the correct solution to the questions asked in the examination held by the American Institute of Accountants in November, 1919, the reader is cautioned against accepting the solutions as official. They have not been seen by the examiners—still less endorsed by them.

ACCOUNTING THEORY AND PRACTICE

PART I

NOVEMBER 14, 1919, 9 A. M. to 1 P. M.

Answer questions 1 and 3, and any three other questions

Question 1:

Spark Plug & Auto Supply, Inc., is the manufacturer of a patented spark plug and is also dealer in automobile supplies. From the following trial balance (as of October 31, 1919) and information prepare balance-sheet and profit and loss statements showing cost of manufacture of spark plugs and gross and net profit on sales:

Advertising	$ 26,450	
Accounts receivable	180,105	
" payable		$ 42,500
Bills receivable	35,000	
" payable trade creditors		22,700
" " First National Bank		150,000
Bonds, 5% 1st mortgage		250,000
Building factory	225,000	
Bad debts written off	7,850	
Capital stock:		
Common fully paid		
Authorized $250,000		
Issued		100,000
6% preferred:		
Authorized and issued		300,000
Dividend preferred stock	18,000	
Delivery expenses	7,140	
Delivery, equipment and trucks	9,250	
Directors' fees	2,500	
Discount on sales	12,200	
Freight: raw materials	12,050	
" automobile supplies	2,345	
Finished goods	34,320	
First National Bank current account	51,850	

General expenses	14,770	
Goods in process	13,250	
Heat, light and power	22,200	
Interest on bonds	9,375	
Insurance and taxes: factory	17,400	
Labor: productive	233,846	
" non-productive	99,444	
Liberty bonds	195,000	
Loose tools	15,270	
Machinery and plant	165,090	
Office furniture and fixtures	1,200	
Payroll		4,278
Patent rights	30,000	
Purchases: raw materials	450,960	
" automobile supplies	141,690	
Repairs	14,050	
Rent: warehouse	3,875	
Reserve for depreciation: buildings		20,500
" " " machinery		16,836
" " bad debts		8,000
Real estate: factory site	150,000	
Shop supplies and expenses	15,560	
Surplus		173,011
Sales: spark plugs		1,063,020
" automobile supplies		137,595
Salaries: office and general	14,500	
" salesmen	34,600	
Traveling expenses	22,300	
	$2,288,440	$2,288,440

Inventories, November 1, 1918:

Raw materials	$ 14,500
Automobile supplies	22,450

Inventories, October 31, 1919:

Raw materials	27,300
Automobile supplies	19,200
Finished goods	50,400
Goods in process	17,205
Loose tools	10,500

Reserve for bad debts to be adjusted to 5% of open accounts.

Depreciation for the 12 months ended October 31, to be allowed as follows:

Factory buildings, 2%.
Machinery, 5%.
Delivery equipment, 10%.
Furniture and fixtures, $200.
Disregard fractional parts of a dollar.
Patent rights expire October 31, 1925.
Advertising, $950.00 applies to next season.
Taxes on factory buildings accrued, $1,400.00.
First mortgage 5% gold bonds are a first charge on all the assets of the company.
Interest payable quarterly on the first of February, May, August and November.

Answer to Question 1:

The problem does not furnish any basis for the allocation of costs between spark plugs and automobile supplies, except that the company manufactures the former and only deals in the latter. All the manufacturing expense is therefore to be charged against the spark plugs, although part of the heat, light and power may be selling or office expense. The selling expenses might be apportioned between the two classes of sales, if proper data were available. The ratio between the sales of the two departments may be far from a proper basis for distributing the expense. The wording of the question would indicate that the gross and net profit is required on the total sales and not on each kind separately.

It is to be noted that the 1918 inventories of raw materials and of automobile supplies are included in the respective purchase accounts, while the other 1918 inventories are in separate accounts, which are not designated as inventories.

The credit to payroll, $4,278, is assumed to be accrued wages not yet due, although that entry is not usually made until the other adjusting entries are put on the books.

PROFIT AND LOSS STATEMENT

Year ended October 31, 1919

Spark plugs:			
Sales			$1,063,020
Cost of spark plugs made and sold:			
Goods in process, Nov. 1, 1918.....		$ 13,250	
Raw material, inventory, Nov. 1, 1918	$ 14,500		
Purchases	436,460		
Freight	12,050		
	$463,010		
Less inventory Oct. 31, 1919..	27,300	435,710	
Productive labor		233,846	
Non-productive labor	99,444		
Heat, light and power	22,200		
Repairs	14,050		
Shop supplies and expense	15,560		
Factory insurance and taxes.......	18,800		
Patents (1/7).....................	4,286		
Loose tools	4,770		
Depreciation, buildings	4,090		
" machinery and plant..	7,412	190,612	
		$873,418	
Less inventory goods in process....		17,205	
Cost of spark plugs made.........		$856,213	

Finished goods inventory Nov. 1, 1918		34,320	
		$890,533	
Finished goods inventory Oct. 31, 1919		50,400	
Cost of spark plugs sold			$840,133
Gross profit, spark plugs			$222,887
Automobile supplies:			
Sales		137,595	
Inventory, Nov. 1, 1918	22,450		
Purchases	119,240		
Freight	2,345		
	$144,035		
Less inventory Oct. 31, 1919	19,200	124,835	
Gross profit automobile supplies			12,760
Total gross profit			$235,647
Selling expenses:			
Rent warehouse		3,875	
Advertising		25,500	
Salesmen's salaries		34,600	
Traveling expense		22,300	
Delivery expense		7,140	
Depreciation delivery equipment		925	94,340
Gross profit on sales			$141,307
General expense:			
Salaries: office and general		14,500	
Directors' fees		2,500	
General expense		14,770	
Depreciation: furniture and fixtures		200	31,970
Operating profit			$109,337
Financing expense:			
Bond interest		12,500	
Discount on sales		12,200	
Bad debts		8,855	33,555
Net profit to surplus			$ 75,782

Surplus

Dividends paid on preferred	$ 18,000	Balance Nov. 1, 1918	$173,011
Balance Oct. 31, 1919	230,793	Profits to Oct. 31, 1919	75,782
	$248,793		$248,793
		Balance Nov. 1, 1919	$230,793

BALANCE-SHEET

October 31, 1919

Assets

Fixed assets:			
Buildings	$225,000		
Less reserve	24,590	200,410	
Machinery and plant	$165,090		
Less reserve	24,248	140,842	
Land: factory site		150,000	
Delivery equipment	$9,250		
Less reserve	925	8,325	
Office furniture and fixtures		1,000	
Patent rights		25,714	526,291
Investment: Liberty bonds			195,000
Active assets:			
Inventory: finished goods	50,400		
goods in process	17,205		
raw material	27,300		
auto supplies	19,200		
loose tools	10,500	124,605	
Bills receivable		35,000	
Accounts receivable		180,105	
First National Bank		51,850	391,560
Deferred charges:			
Advertising			950
			$1,113,801

Liabilities

Fixed liabilities:	
Bonds	250,000

Active liabilities:		
Bills payable trade	22,700	
" " bank	150,000	
Accounts payable	42,500	
Bond interest accrued	3,125	
Wages accrued	4,278	
Taxes accrued	1,400	224,003
Reserve, for bad debts.............		9,005
Capital and surplus:		
Capital stock, common.............	100,000	
" " preferred	300,000	
Surplus	230,793	630,793
		$1,113,801

Question 2:

The certificate of incorporation of the company referred to in the preceding question provides for the redemption of preferred stock "out of surplus profits," $30,000, to be redeemed November 1, 1919, and $30,000, yearly thereafter. The stock redeemed in 1919 is to be purchased at 105 and accrued dividends, in 1920 at 110, and so on, the 1928 redemption being at 150.

Assuming that purchases of stock are made in accordance with the above requirements, and that the directors take the necessary steps for the cancellation of the issue, explain how the various transactions should be recorded in the books of the company and illustrate your answer by journal entries.

How would you show the accounts in the balance-sheet at any time during the redemption period?

Answer to Question 2:

The premium on the stock redeemed is a financial loss to the company, but it is not an operating loss to be charged in the profit and loss account of any one year. It is a charge against surplus, and should be made when closing the books on October 31st of each year. The entry would be in 1919:

Preferred stock	$30,000.00	
Surplus	1,500.00	
Holders of redeemed stock..................		$31,500.00
To carry out the action of the board of directors redeeming preferred stock.		

There could also be an entry as follows:

Surplus	$30,000.00	
Appropriated surplus		$30,000.00
To show appropriation of proceeds of surplus to redemption of stock.		

It is assumed that there would be some provision designating which stock was to be redeemed, probably 10 per cent of each stockholder's original holdings. Otherwise it might be impossible to get the stock at 105.

The provision for the accrued dividend seems to have been made already, since the full year's dividend has been charged.

When the holders of the redeemed stock are paid, their account will be charged; but as that is not done until after October 31st, it does not affect the balance-sheet.

All the changes in the balance-sheet will be on the credit side. Capital stock preferred will be reduced $30,000.00; free surplus will be reduced $1,500.00. To offset these there would be a new account of redeemed stock $31,500.00. The surplus account would be divided as follows:

Surplus:

Appropriated to redeem preferred stock.....	$ 30,000.00	
Free	199,293.00	$229,293.00

The only question that can be raised is as to whether or not the premium shall be averaged, instead of being charged off as it is paid. The total premium in the ten years would amount to $82,500.00 and the annual average would be $8,250.00. The objections to this plan are that the annual increase in the premium is evidently intended to make the burden proportionate to the surplus, which it is naturally expected will also increase; that there is no absolute certainty that the company will make enough profit to permit the redemption of the stock regularly every year, and the average may be destroyed; and that the premium is in reality an extra dividend, and dividends are not charged to surplus until they are declared payable.

It is hardly worth while to consider a claim that might be made that the premium is a special dividend of 5 per cent declared each year on all the outstanding stock—in other words that the stock is actually preferred at 11 per cent, 6 per cent payable in cash on all the outstanding stock, an additional 5 per cent in cash on $30,000 of the stock each year, and that 5 per cent is to be credited to accrued dividends not due on the unredeemed stock. This would set up a large accrued liability which did not exist and would not materialize until the directors had taken appropriate action each year.

Question 3:

In Mr. Jones' private ledger he keeps accounts with each investment he makes, one of which is an investment of 1,000 shares (par value $100) of the A. B. Company, which he acquired in July, 1914, for $85,000. After this date and up to December 31, 1918, he makes further purchases and sales of this stock. A certified public accountant called in to prepare Mr. Jones' income-tax return for 1918 finds that these and other transactions have been written up in the folowing manner, no effort to show the profit on the sale of 1,000 shares on June 1, 1918, having been attempted:

Investment A. B. Company Account

		Dr.	*Cr.*
July 1/14.	1,000 shares purchased	$ 85,000	
Dec. 31/14.	Entry to carry this stock at par.......	15,000	
May 31/15.	Purchased 1,500 shares at par.........	150,000	
Nov. 30/15.	Sold 300 shares at 125................		$37,500
Dec. 31/15.	Profit and loss—profit on sale of 300 shares	7,500	

July 1/16. Stock dividend of 50% on 2,200 shares declared from profits accumulated prior to March 1, 1913	110,000	
Feb. 28/17. Sold 700 shares @ 110................		77,000
Dec. 31/17. Profit and loss, profit made on sale of 700 shares	7,000	
June 1/18. Sold 1,000 shares @ 125..............		125,000

Rewrite this entire account to show how it should have been kept in order to show the actual profit on each sale, and also calculate the actual profit on the last sale of 1,000 shares. What is the book value of the total shares on hand December 31, 1918?

Answer to Question 3:

If the shares of stock of the A. B. Company, purchased and sold by Mr. Jones at various times, could in each case be identified—that is, if the shares represented by each purchase were kept distinct from the shares involved in each other purchase, by a record of certificate number, by marks upon the certificates or by some other method—it would be necessary to use a separate account for each purchase, since each lot of shares would constitute a distinct and separate unit of property for income-tax purposes. Any one of such units could be sold at any time by Mr. Jones without interfering with the other units, and he would be required to report the taxable gain or deductible loss for that particular property, consisting of the difference between its cost and selling price. For example, in making his sale of 300 shares on November 30, 1915, he might sell 300 of the shares purchased at 85, in which case he would make a profit of $12,000, or he might sell 300 of the shares purchased at par, in which case he would make a profit of $7,500. Assuming, however, that Mr. Jones is unable to identify the particular shares purchased at any time, which would be the result if he obtained a single certificate after his purchase of May 31, 1915, to represent his 2,500 shares then owned, the accounts would be kept as follows, based upon the presumption that the shares sold at any time were the shares then owned which had been first purchased, and that any shares remaining unsold were the shares which had been last purchased.

Stock of A. B. Company

	Dr.	*Cr.*
July 1, 1914. 1,000 shares purchased at 85...	$ 85,000.00	
May 31, 1915. 1,500 shares purchased at 100.	150,000.00	
Nov. 30, 1915 300 shares sold at 125, cost 85. (Credit profit and loss, $12,000)		$ 25,500.00
July 1, 1916. Stock dividend of 50%—1,100 shares. (Cost of remaining 700 shares purchased at 85, or $59,500, now represents cost of 1,050 shares, or $56.67 per share. Cost of 1,500 shares purchased at par now represents cost of 2,250 shares, or $66.67 per share.)		

Dec. 31, 1916. Balance, cost of remaining shares:			
1,050 shares at $56.67	$ 59,500.00		
2,250 shares at 66.67	150.000.00		
3,300	$209,500.00		$209,500.00
		$235,000.00	$235,000.00
Jan. 1, 1917. Balance forward...............		$209,500.00	
Feb. 28., 1917. 700 shares sold at 110, cost $56.67			$ 39,666,67
(Credit profit and loss, $37,333.33)			
June 1, 1918. 1,000 shares sold at 125, cost $66.67			66,666.67
(Credit profit and loss, $58,333.33)			
Dec. 31, 1918. Balance, cost of remaining shares:			
1,250 shares at $66.67..................	$ 83,333.33		
350 shares at 56.67.................	19,833.33		
	$103,166.66		103,166.66
		$209,500.00	$209,500.00

The entry with reference to the last sale made on June 1, 1918, and the computation of profits thereon, are based upon a strict literal application of the rule stated by the treasury department as follows: "The stock sold shall be charged against the earliest purchases of such stock." It is true that Mr. Jones held on that date 350 shares which he had acquired on July 1, 1916, as a result of the stock dividend upon the 700 shares of his first purchase in 1914. It might therefore be contended that these 350 shares were held by Mr. Jones as the result of his first purchase, and therefore that any sale should be charged against this stock in priority to the stock purchased on May 31, 1915. On the other hand, on June 1, 1918, Mr. Jones owned 1,500 shares, which were purchased at a date prior to the date when he acquired the 350 shares received as dividend. It seems to follow that the sale on June 1, 1918, should be charged against this prior purchase, rather than against the stock subsequently received by reason of the stock dividend, even though the stock dividend was in part paid upon shares purchased at a still earlier date. Mr. Jones is also entitled to claim the benefit which he obtains by this interpretation until the treasury department changes its rulings. If this sale were charged against the 350 stock dividend shares, the taxable income of Mr. Jones would be $3,500 greater than it is according to the method used. (Answered by Kixmiller & Baar, counsel for Commerce Clearing House.)

Question 4:

Discuss the treatment of expenditures for (I) ordinary repairs and (II) replacements in their relation to capital expenditures, profit and loss and reserve for depreciation.

Answer to Question 4:

(I) Managers, superintendents and foremen are naturally interested in

keeping down operating expenses for which they are responsible. Their interest lies in charging repairs, which are operating expenses, to the asset account of machinery, etc., charges to which are capital expenditures. If allowed to do this, they are unduly inflating the assets with items which do not increase any asset values and are equally inflating the profits by the omission of operating costs.

Where ordinary repairs are nearly uniform in different periods they may be charged as operating cost as they occur. Usually they are not uniform, and should be averaged by a uniform charge to operating and a credit to reserve for repairs. Actual expenditures are charged to the reserve. Sometimes the reserve for depreciation is made large enough to include repairs, but it is better to have a separate reserve account.

(II) When an asset which is scrapped as a unit is replaced, the proper entry is to credit its original value to the asset account and to charge cash for the scrap value realized, if any, reserve for depreciation with the amount that has been credited to it for this particular asset, and surplus for the difference, if any, unless the plan of averaging depreciation is adopted. The cost of the new asset is charged to the asset account. In this way any increase or decrease in the value of the new asset as compared with the old one is taken up as a capital expenditure or saving.

When parts of an asset are replaced from time to time, the asset is to that extent virtually as good as new—that is, the depreciation of that part of the asset has been offset, and the cost of replacement should be charged to depreciation reserve. If the asset is permanently improved, a portion of the cost should be charged to the asset account as a capital expenditure. The only profit and loss entry would occur when the reserve for depreciation was set up.

Question 5:

A corporation carries on its books an account with patents it has acquired from time to time by outright purchase during a period of ten years. They are still carried at original cost and it is decided to determine their present value, based upon the expiration of the life of the patents. Describe how you would proceed accurately to secure this result.

Answer to Question 5:

The life of a patent is 17 years; therefore the date at which it will lose its value is accurately known. It is a wasting asset, and is considered to lose value each year in proportion to the number of years it still has to run, or, to be accurate, the number of months. The amount paid for each patent is divided by the number of years or months that it then had of remaining life to determine the rate of wastage. This rate of wastage is multiplied by the years or months elapsed between the date of purchase and the present date, the product being credited to the patent account and charged to surplus. In closing the books each year in the future the amount of wastage on the patents is charged as an operating expense.

In ordinary circumstances the possession of exclusive rights under the patents gives a business the opportunity to establish a valuable goodwill.

If the amounts paid for the patents are very large, it may be successfully claimed that part of their cost was incurred in paying for this goodwill. If that is so, the whole of the cost of the patents need not be written off during their life, but a portion may be left as goodwill.

Question 6:

A wholesale and retail company, which also manufactures most of the goods sold by it, determines through its cost system in the factory the cost of manufacture and proposes to bill its wholesale department for all goods manufactured at cost plus 10%. What effect will such procedure have on statements issued by this company?

Answer to Question 6:

This procedure would mean that the wholesale department was apparently paying 10% too much for the goods and that its profits were correspondingly reduced. Both manufacturing cost and selling expense would be thrown out of proportion in relation to net sales. The total profits of the company would not be affected as far as the goods made and sold during the year were concerned, but the profits would be reduced by an amount equal to one-eleventh of the goods on hand at the beginning of the year, and would be increased to the extent of the same proportion of the goods on hand at the end of the year, if the inventories were taken at the prices billed to the wholesale department.

A business cannot make a profit by manufacturing goods. It is necessary to sell them before any profit can be made; therefore it is not scientific to allow the factory any profit on the goods it makes.

Question 7:

State briefly the reasons advanced against including interest on owned capital in manufacturing costs.

Answer to Question 7:

It is assumed that this question refers only to the capital that is invested in the factory, since, as far as we know, it has never been claimed that any interest should be added to manufacturing costs except that calculated on the value of the fixed assets necessary to manufacture the product.

Manufacturers do not invest in land, buildings and machinery for the sake of earning interest. They expect that the use of these fixed assets will produce goods the sale of which will result in profits. If the expected profits consisted merely of interest there might be some foundation for the claim that interest was part of the cost. The profits cover much more than interest, such as the element of risk, the personal business ability of the proprietors or their representatives, taxes on capital and earnings and usually a further element of extra profit in prosperous years to provide against a decrease in normal returns in poor years.

Interest should not be considered an operating cost at all. It is the business of capital to furnish all the funds necessary to carry on an enterprise. If there is not ready money enough supplied by the capital of the proprietors it is necessary to call in others to supply the lack. Therefore,

capital offers investors inducements to advance the necessary funds. The inducement is larger or smaller according to the security that is offered, whether on short unsecured notes or on long-term bonds amply secured by real estate. The raising of this money is entirely the concern of capital and not of the manufacturing department of the business.

The impossibility of fixing a rate which can be called pure interest is another objection. All interest payments are influenced to a certain extent by the risk incurred in even the best secured loans. There is no such thing as a natural rate of interest, since the element of risk is always present and must always be covered.

If it is claimed that interest actually paid by the company will furnish the rate, an insuperable difficulty arises when more than one rate is paid. The interest paid may be at one rate on preferred stock, another on long-time bonds and a third on short-time notes.

The greatest objection of all is that the inclusion of interest on the value of factory fixed assets would be illogical unless interest is also included on account of the capital tied up in material and labor paid for in many cases long before the goods are finished. If it costs interest to carry fixed assets, interest certainly would be required also to carry all the other manufacturing expense until the goods are turned over to the selling department. Even then interest would not stop, because it is still necessary to carry large sums locked up in goods on hand and in accounts receivable, until actual cash is realized. Interest would then be a selling cost also. Unless a concern were a heavy borrower, the result would be that its charges to manufacturing cost and to selling expense and credits to interest would result in showing a large net earning from interest, when it may not have received a single dollar of actual interest.

Inventory at Cost or Market

Editor, Students' Department:

Sir: Should an inventory of raw material used in a printing plant be taken at its actual cost or at market value? I have seen articles from time to time in The Journal of Accountancy advising cost or market whichever is lower, although I am inclined to believe this is meant to cover mercantile establishments only, and would not apply to inventories of raw material in a manufacturing plant the selling price of whose finished product is based on actual costs. Am I correct in this assumption?

Your valuable advice will be greatly appreciated.

Yours truly,
H. B. M.

Harrisburg, Pennsylvania.

I have always taken the ground that the rule in regard to valuation of inventories at whichever price is lower, cost or market, did not apply when the selling price was not affected by a drop in the market.

If I am making flour, and wheat falls, I shall have to reduce the price of my flour. But if I am making a breakfast food my price is virtually stable; therefore I shall make a smaller profit on the produce made from my

inventory of wheat than I would have made if I had bought less wheat. But that is a question to be settled when the sales are made, not when the inventory is taken.

In your case I should certainly take the inventory at cost without any regard to market conditions, since the selling price is based on actual cost and is not affected by the market price of raw materials.

Because a profit is less than it might have been does not make it a partial loss at one time and a greater profit at another, as would be the case if you valued inventory at less than cost. When sales are made the next month you would register a profit that you did not make, to offset the apparent loss at the last closing which was not then realized and never would be realized as a loss.

The effect on the income tax is not considered. If the inventory is taken at market value the tax this year would be reduced, while that for next year would be correspondingly increased.

Capitalization of Goodwill

Editor, Students' Department:

Sir: I trust that I am not exceeding my privilege as a subscriber in asking you the following question:

A corporation organized prior to March 1, 1913, has a capital of $200,000 and a surplus at the present time of $500,000. Its average earnings have exceeded 20% annually on the capital invested. The business is not of a fluctuating nature, but steadily increases in both volume and percentage of earnings. It seems apparent that the corporation has a goodwill equal in value to the capital stock.

Can this goodwill be set up as an asset on the books and stock be issued in an equal amount and distributed to the present stockholders without causing them to pay taxes thereon?

Or would it be necessary to distribute the total surplus created from earnings before this could be done?

Or would it be possible to set up goodwill as an asset on the books of the corporation and provide a special reserve of equal amount and be able to use 25% of the amount as capital?

Yours truly,
A. C. K.

Evansville, Indiana.

The goodwill cannot be put on the books at all as you propose. Dicksee, the English authority, says: "The only excuse for the insertion of such an item as goodwill in accounts is that such an amount has actually been paid by the present proprietor for the goodwill of a business." This opinion has been universally concurred in by all accountants in this country as well as in Great Britain.

The reason for this is that the plan falsifies the profits and leads to a still further expansion if logically carried out. The only offsetting entry would be a credit to surplus. If it is desired to increase the capital stock, it can then be done by a stock dividend.

In the case in point, if it is considered that the accumulation in a given

time of a surplus of $500,000 is a justification for writing into the accounts a goodwill of $200,000, the surplus will become $700,000. But if $500,000 justifies a 40% goodwill, or $200,000, a surplus of $700,000 would justify a goodwill of $250,000, raising the surplus to $780,000, necessitating the raising of the goodwill to $312,000, and so on.

If the corporation should combine with others in a new company, it could and, of course, would demand a recognition of its goodwill. If that were agreed to be worth $200,000 the corporation would receive from the new company $900,000 in payment for its business to cover its capital stock of $200,000 and surplus of $700,000. The new company, having paid for the goodwill, is entitled to carry it as an asset for its cost, $200,000, and this is the first time it can legitimately appear as an asset on any books. Of course, it can at the same time be put into the accounts of the original corporation by an offsetting credit to surplus in recognition of and preparation for the sale. It is a credit to surplus and not to capital, because it is an increase in the net worth of the business, which now becomes a real profit by realization through the sale.

Goodwill is a fixed asset and as such cannot be written up; therefore the new company, however prosperous, cannot increase the amount beyond its cost.

Stock Record at Branches

Editor, Students' Department:

Sir: I would appreciate your advice on the following problem, which has come up in our business:

We wish to maintain a stock record at all branches on finished products and raw materials and at the same time have check on them at the home office. General books, including expense ledgers, are handled in home office, branches having only sales ledgers at present. All finished products and raw materials are billed to branches at cost prices; but as we do not wish various stock clerks to know cost prices, I am at loss just how to handle the matter.

J. D. G.

Freeport, Illinois.

As I understand your question you wish to bill the goods to the branches in such a way that you will always know the quantities and the cost of the shipments.

You can keep track of the quantities in various ways. If there are many items the best way is to have a card system for each branch. This requires a card for each kind of goods, with columns for quantity sent to, sold by and on hand at the branch. It hardly seems worth while to keep such an elaborate system of cards.

If you bill at cost there is no way to prevent any one at the branch from forming the opinion that the prices are cost. The best way is to bill at either selling prices or at some figure so much higher than cost as to make it evident that it cannot be cost. By always adding the same percentage to actual cost it is easy to reduce your conventional price to cost.

It does not make a particle of difference at what price you bill a branch because, of course, you credit all shipments to branches to "branch sales"

and not to your regular sales account. The only time when cost is necessary is in pricing the inventory at the branch, and, as that is done on the home office books, the branch knows nothing about it.

Averaging Cost

Editor, Students' Department:

Sir: I shall be greatly obliged if you will give this question your consideration and give me your answer at your earliest convenience:

Over a separating table which costs $10.00 an hour to operate, there pass ten tons of sand. This sand contains four different minerals, every ten tons containing one ton mineral A, two tons mineral B, three tons mineral C and four tons mineral D. These various minerals are separated by the table. The question is: Shall the cost of operating the table for one hour be divided by the ten tons produced, giving mineral A produced a cost of $1.00, mineral B $2.00, mineral C $3.00, mineral D $4.00, or shall the cost of the one ton of mineral A be ¼ of $10.00, two tons mineral B ¼ of $10.00, three tons mineral C ¼ of $10.00, and four tons D ¼ of $10.00?

Thanking you for your consideration of this problem, I remain,

Very truly yours,

R. S. T.

Niagara Falls, New York.

As the cost of separation must be in proportion to the number of tons handled, my opinion is that each class of sand should be charged with the proportion of cost that its tonnage bore to the total tonnage. In this case A would be charged $1.00, B $2.00, C $3.00 and D $4.00. It is hardly possible that it would cost no more to separate D's four tons than it does A's one ton.

Suppose different lots varied, as I should think they would, and the result of one was: A 1, B 1, C 2 and D 6. If each is charged ¼ of the cost, this lot would show twice the normal per ton cost for B and 1½ times for C, while D's cost would be only ⅔. This does not seem logical. It would make it difficult to ascertain standard costs for the different grades.

Enos Spencer

Enos Spencer, of Louisville, Kentucky, died suddenly January 17, 1920. Mr. Spencer was one of the oldest and best-known members of the American Institute of Accountants, and had always been active in conventions and other matters concerned with the progress of the profession to which he belonged. For many years he had been not only a practising accountant, but also an instructor.

North Carolina Society of Public Accountants

The North Carolina Society of Public Accountants, Inc., announces that it has received a charter and that the officers of the society are: president, Charles N. Goodno; vice-president, J. B. McCabe; secretary and treasurer, George E. Wood.

Klein, Hinds & Finke announce that James E. Tallent, D. C. Eggleston and William Steinberg have been admitted to partnership in the firm. The firm also announce the opening of a branch office at 11 Pemberton square, Boston, Massachusetts.

Reuben Hirsch and M. Albert Welt announce the formation of a partnership under the firm name of Hirsch-Welt & Co., with offices at 299 Broadway, New York, and 128 Broad street, Elizabeth, New Jersey.

James O. Sully announces that he has formed a partnership with E. G. Wunner, under the firm name of James O. Sully & Co., with offices in Merchants National Bank building, San Francisco, California.

Marwick, Mitchell & Co. announce the opening of an office in the H. W. Hellman building, Los Angeles, California, under the management of Walter C. Wright and Willis H. Brown.

Webb, Read & Co. and George A. Touche & Co. announce that their practices in Canada have been amalgamated and will be carried on under the firm name of George A. Touche & Co.

Rudolph Holde and Nathaniel W. Gropper announce the formation of a partnership under the firm name of Holde, Gropper & Co., with offices at 299 Broadway, New York.

Touche, Niven & Co. announce the opening of a branch office in the Society for Savings building, Cleveland, Ohio, in charge of Henry E. Mendes.

Touche, Niven & Co. announce the admission to partnership of Charles R. Whitworth, Henry E. Mendes and Francis J. Clowes.

Covington, Sauer & Scarborough announce the opening of offices at 409-410 Woodward building, Birmingham, Alabama.

Wiegner, Rockey & Co., Philadelphia, announce that J. K. Mathieson has been admitted to partnership in the firm.

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Municipal Accounts—Their Preparation and Audit*

By George Rea

Nothwithstanding the regulations and restrictions surrounding municipal affairs, up-to-date accounting methods may be employed as readily as in private business. These regulations will be found to be matters of administration more often than of accounting, dealing with the transactions rather than with the records.

He who undertakes to prepare a system of accounts for a municipality or to audit them must be thoroughly familiar with all the laws governing its financial transactions. These laws are found in the statutes, in the charter under which the municipality is organized (whether it be general or special) and in its ordinances. Many regulations are most annoying because of an overreaching and unintelligent effort to safeguard the city's money. But a careful survey will enable the accountant to provide a simple and efficient system of accounts and at the same time to meet the legal requirements.

A literal interpretation of all the laws affecting accounts would require a vast amount of duplication of records. Too often the statutes are the heritage of olden days when the transactions were few and modern business methods were not known. In one state laws are yet in effect which were enacted when the treasurer honored warrants by paying cash. Although later laws have been passed permitting him to deposit the city's money in bank, the original acts remain in force requiring him to keep records duplicating those of the city clerk.

In this paper more particular attention is paid to the require-

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ments of small municipalities. The same principles would be applied in the largest cities, the records being adapted to the larger volume of business.

Practical independence is sometimes granted to certain boards and commissions, which will cause endless confusion if they are allowed to exercise their privileges without limit. Arrangements should be made to have their financial transactions recorded in the city accounts.

Records

In a small municipality the clerk may be the bookkeeper. In a large city the comptroller's department is the accounting department. Between these extremes the books should be kept by one or more deputies under the direction of the city clerk. In all cases some person should be made responsible for the accuracy and completeness of the general accounts and should verify the accounts of deputies and officers handling money and keeping department records.

In the general ledger the accounts should be grouped in the usual classes—assets, liabilities, expenses and income, arranged in each class in a logical order. Expenses should be subdivided by departments. A numerical system of designating accounts can be employed with advantage. It should be arranged to permit new and special accounts to be opened in each class and subdivision, maintaining unity and logical order.

The form of cashbook will depend upon the methods employed in handling receipts. In a small town where the clerk is de facto collector of taxes, licenses, fees, water bills, etc., a column should be provided for each class of income. In larger cities each department should keep a cashbook and make periodical settlements, a summary of the transactions in each period being entered in the general records as a charge to the treasurer. In this case the clerk's cashbook need not be so elaborate, as the entries will be comparatively few.

Absolute control should be maintained over every officer receiving cash by requiring him to issue a carbon duplicate receipt. Licenses and permits at predetermined rates may be made self-recording receipts by providing them with stubs similar to those on post-office money orders. The clerk or a deputy should verify

each department's collections from the amounts shown on the duplicate receipts or stubs.

A municipality's money is divided into funds, from each of which only certain classes of expenditures may be made. This is intended to limit the expenditures in each class, but it is nullified by the power granted to the governing body to transfer money from one fund to another at will. These funds are in effect several bank accounts. Corresponding accounts should be opened in the general ledger, and provision should be made in the cashbook to determine readily what moneys are to be deposited in each fund.

Distribution of receipts to the several funds is determined by the tax levy and ordinances. With taxes this is generally so involved a process as to forbid the distribution of each item. If only one depository is maintained and the clerk keeps a complete cash record, one distribution may be made of the month's total collections; or the clerk may deposit in a special account which will be transferred to the treasurer at the end of the month. If funds are low and demands are pressing, the distribution may be made more often.

While designated by other names, the instruments employed in municipal transactions are the same as those in private business. Demands or claims are purchase and expense invoices. Warrants are cheques on the depository banks or drafts on the treasurer.

Claims should be approved by the purchasing department, if there be one, or by the head of the department incurring the expense, and sent immediately to the accounting department to be recorded. The claims register may be used as a distribution record by providing double columns (for name or number of the account and amount) for each department and for sundry expense. At the end of the month the charges in each column may be summarized and totals of each account may be posted to the ledger. In another column should be entered the number of the warrant drawn in payment of each claim.

The monthly total of the claims is credited to claims payable account, against which are debited the warrants drawn. Thus the claim and claims register correspond respectively to voucher and voucher record. As many municipalities require claims to

be filed on the city's forms, duplicate claims may be used with all the advantages of the duplicate voucher system.

In the warrant register a column should be provided for each fund (funds with infrequent transactions may be handled through a sundry column) corresponding to the several bank columns in the cheque register, a debit column for the charge to claims payable and a column for claim numbers. If discounts are not deducted when the claims are entered, a discount column also is needed. The balances in bank or in the treasurer's hands should be reconciled in the same manner as a bank account.

The accounts should be kept on an income and expense basis. Unless the city is so fortunate as to be able to pay all expenses incurred, a condition which circumstances may alter at any time, receipts and disbursements accounts cannot give the information needed to manage the city's affairs efficiently. Therefore, the claims register should be held open until all the month's expenses are recorded, claims of the following month being entered on another page.

But these records will not accumulate the data for reports which some state comptrollers require to be made on a receipts and disbursements basis. If such a report is required, a second record should be provided similar to the claims register, in which the segregation of expense accounts will be made from the disbursements. It should be understood that this record is for a special purpose and is not to be confused with the regular books of account.

It is suggested that accountants who have municipal clients urge the state officers to permit reports to be prepared on an accrual basis.

The ordinary two-column journal usually will be found adequate for most municipalities.

The records to be kept by the treasurer will depend upon the methods employed in handling the city's funds. The clerk's records should be so kept that the balance in each fund may be known at any time; and no warrant should be drawn if there is not a sufficient balance to pay it. No special record then need be kept by the treasurer if the money is deposited in banks. But if warrants be drawn regardless of the condition of the funds, the treasurer must keep complete records of all deposits and with-

drawals, that he may know when a fund is depleted and refuse payment on warrants drawn thereon.

Income

The income of a municipality is derived principally from taxes. The records and procedure for levying and collecting them are prescribed by law. As seventy-five per cent or more of each levy is collected in the few days immediately preceding the delinquent date, numerous errors result from the volume of work handled in a brief period—and usually with inadequate records.

Within the limits allowed by the statutes, the tax roll should be prepared so that each taxpayer and each piece of property can be located readily and the amount of taxes determined at a glance and not be confused with other items. Space should be provided for the date, number of receipt issued and amount of tax paid. The roll thus may be used as a subsidiary ledger, with a control account in the general ledger. If the roll is large, it should be subdivided into two or more sections, alphabetically or geographically, with corresponding control accounts in the general ledger and columns in the cashbook.

The tax roll should be reconciled with the control accounts as carefully as any subsidiary ledger. The word "reconciled" is used instead of "balanced," as errors will occur in the collection of taxes. Overages should be refunded and shortages collected. The latter is not impracticable, even for small amounts, as an unpaid portion of the tax is as much a lien on the property as the whole assessment.

The method of handling receipts from licenses and permits has been described in relation to the cashbook.

If the city owns its waterworks or other public utility for which a charge based on the service rendered is made, an accounts receivable ledger should be provided with a control account in the general ledger. Postings should be made from the meter or other service record. The bills should be made from the same record independently of the ledger postings. Adding machine lists of the bills and of the postings should be compared to detect and correct errors. A special column should be provided in the cashbook for each service ledger.

Expenses

As suggested in the description of the general ledger, the accounts should show the expense of each department. The extent to which they are subdivided will be determined by the volume of business, by the importance of the work of each department and by the wishes of the governing body and of the department heads. The general subdivisions of salaries, wages, office supplies and expenses, department operating supplies and expenses, repairs and special expenses are suggested. Any one may be further divided as desired.

General administration expenses may be treated as a separate department. Among its special expenses will be interest on the bonded debt.

Capital expenditures should be carefully segregated from operating expenses. Perpetual inventories should be maintained, as the property and equipment are distributed among many persons, who are required by statute to account for them but seldom do so systematically and satisfactorily.

Bonded Debt

In the case of bonded debt the initial entry will be a cashbook credit of the par value of the bonds to bonded debt account and another credit to premium on bonds sold. If they are sold at a discount a journal entry charging discount and crediting bonds is needed to complete the record. When a bond is redeemed, its par value should be charged to the bonded debt account, premium or discount if any being charged or credited to the revenue account.

A liability for interest on bonded debt should be set up by journal entry on the date when the interest is payable, and coupons as paid should be charged to this account.

If the city's money is deposited, arrangements should be made with the banks not to charge maturing bonds and coupons against the balance on hand, but to present them to the clerk, that a claim and warrant may be recorded. Unless this is done, not only will the clerk be unable to show in his records the exact balance, but the record of payment of bonds and coupons will be deficient and probably impossible of later verification.

Reports

If the accounts in the general ledger are properly classified and arranged, a trial balance can be taken in the form of a monthly report. Often the only additional data required will be the total receipts and disbursements in each fund, the tax collections and the increase in each revenue account to show the income and expenses of the month.

Audit

Under existing conditions in municipal government, it is reasonable for the accountant to assume that there is no adequate check on the transactions, and that he can be more than ordinarily suspicious of the records he is about to examine. Or to state it more conservatively, he cannot accept a transaction as regular because it would be such in private business. The officers feel so handicapped by their restrictions that they constantly seek methods to evade them. Many municipal audits are authorized solely for the purpose of having an auditor's report to which an appeal may be made in case an officer's record is attacked. The necessity for an accountant to be absolutely sure of his position in a municipal audit cannot be emphasized too strongly.

The computation of taxes and the footings of the tax roll can be proven by multiplying the total assessed valuation by the tax rate, the product equaling the total taxes. Compensating errors may be detected by making a like computation at every fifth or tenth page, or each page may be proven if an absolute verification is desired. Fractions will cause small differences in the footing of each page, but may be disregarded unless they exceed an amount previously determined as an allowable difference.

The accountant, of course, will refer to the ordinance or resolution levying the tax to see that the proper rate has been applied and will note also that it is within the statutory or charter limit.

The cash collected, less penalties, plus the delinquent taxes must equal the original roll. The delinquent roll must include also penalties and costs. The accountant will be fortunate who has not to check all transactions, for the methods employed produce errors and many adjustments may be required. If a complete check is not to be made, a thorough test should be given, having in mind the possibility that a forced balance or reconciliation has been made by the collector.

The allocation of the cash to the several funds, as set forth in the ordinance, must be verified.

Redemption of delinquent taxes presents its own problem, varying with the community. The amount of the tax originally assessed and the penalties and the costs, as stated in the certificate of redemption, must be compared with the corresponding items in the delinquent roll.

Interest and penalties often are cumulative. The rates must be those prescribed by statute or ordinance. Computations should be tested thoroughly and all should be verified if many errors are found. A careful investigation must be made of the method of recording redemption in the delinquent rolls. If the ledger does not contain a control account for each tax year, it may be necessary to go through all the rolls to determine if all redemptions have been included.

Delinquent taxes being a part of the income provided for previous years, the receipts from their redemption must be applied to the liquidation of unpaid expenses of those years, if any exist, before they can be applied to current expenses.

For franchise taxes based on the gross income of a public utility there probably will be found the corporation's statement. If this can be compared with published reports, or access can be obtained to the financial statement usually available to bankers and brokers, such comparison should be made.

When examining the income from licenses and permits, it is not enough merely to account for the fee. Officers often content themselves with issuing these documents as application is made for them, instead of compelling all licensees to renew their privileges at the stated periods. Annual licenses issued during the year may be compared with those of the previous year. Quarterly and monthly licenses may be tabulated. Omissions should be investigated carefully. The fee for each class of license and permit should be compared with the ordinance.

If it is specified that receipts from a particular source of income or any part thereof shall be available for certain expenditures, it must be seen that such receipts have been deposited in the proper funds.

Miscellaneous income must be treated similarly, the exact method depending upon its nature and source.

A source of income frequently overlooked is interest on deposits, both ordinary and special. In some states banks are required to pay interest on daily balances under a penalty against both banker and treasurer.

Transfers of funds may be made by warrant or by journal entry. In either event the only matter of interest to the accountant is that each transfer shall have been duly authorized.

In the examination of claims, the questions to be answered are these: Have they been approved by the proper authorities? Are they proper expenditures from the funds from which they were paid (this is even more important than the question whether or not the warrant was drawn on the fund specified on the claim)? Was the expense incurred within the year in which this fund received its income?

Another point worthy of attention is the amount of the claim. Some charters fix a limit beyond which a purchase can be made or an expense incurred only by action of the council after due advertisement. Many ingenious methods are employed to nullify this regulation. In a city allowing a maximum of five hundred dollars, the purchasing department placed a standing order for daily delivery of cement over a period of weeks and arranged with the seller to render bills in amounts of five hundred dollars each. These bills were duly passed by the construction and purchasing departments, approved by the council and a warrant for five hundred dollars was drawn for each.

In addition to examining the warrants in the verification of the treasurer's balance, each must be compared with the claim which it pays to see that the amount is correct and that it is drawn on the proper fund.

The utmost care must be taken to detect double payment of bonds and coupons. If the officers and deputies are not careful in handling these, they may fall into unauthorized hands and be presented for payment a second time. If each bond and coupon can be identified from the record of its payment, all should be checked in detail and payment of an item maturing in a previous year should be investigated until the accountant is assured that the transaction is regular. If there is no identifying record, the total interest and principal payments on each series of bonds and the unpaid matured items must be determined and then be com-

pared with the liability accruing for the year. Should a discrepancy exist, like details for one or more preceding years must be determined, until a reasonable reconciliation is obtained. But in his report the accountant must be careful to show the inadequacy of records which do not identify every payment of money.

Special assessments for lighting, sewers, paving, etc., must be treated as the ordinances and circumstances may determine. In some cases these funds are handled by the treasurer or other officer in a trust capacity, and the cities have no direct control over them. Should their examination not be included in the accountant's engagement, he nevertheless should satisfy himself when verifying the regular municipal funds that the trust funds were not employed to cover shortages.

In conclusion it may be stated that a reasonable assurance of the accuracy and completeness of municipal accounts amounts almost to what would be an absolue verification of a private business.

Unsold Goods and the Income Account

By William B. Gower

Since December, 1917, we have been required by the treasury regulations in ascertaining the net income of a given year to value all inventories of supplies, materials, finished or partly finished goods, unsold merchandise, etc., on one or other of two alternative bases, namely, (a) at cost or (b) at cost or market price, whichever is the lower. The far-reaching character of this requirement and the many questions involved in accepting it as sound accounting doctrine merit more attention than they have received so far.

It is intended to restrict the discussion to accounts which are kept on the basis of accruals of cost and income, and to disregard those which are kept on the basis of actual cash receipts and expenditures. Most businesses which handle commodities keep their accounts on an accrued basis, and the accounting scheme centres around the ascertainment of accrued net revenue in terms of distinct periods. One of the important phases of this question of net revenue is the inventory of commodities. It is recognized that the necessity for taking stock of such commodities at the close of each accounting period extends beyond the mere ascertainment of quantity, for unless a *value* is placed upon the commodities the net revenue figure for the period cannot be determined.

It is equally well recognized that a logical and consistent *basis* for this valuation of inventories of goods must be adopted. This is necessary even during accounting periods when inventory quantities exhibit only slight variations and when prices and values are static. The necessity is accentuated, however, during those accounting periods in which extensive accumulations or diminutions occur in stocks on hand and during those periods in which price changes and fluctuations take place, or during which there is an abnormal spread between cost prices and selling prices. In recent years, those conditions have prevailed in many industries.

For its bearing upon the problem of inventory valuation we

may classify commodities, broadly, into four or five main subdivisions, namely:

(a) Commodities purchased for resale in their original forms by merchants, traders and dealers.

(b) Goods acquired for consumption in manufacturing and productive processes, for maintenance and repairs of plant and facilities (not purchased for resale in their original forms).

(c) Goods manufactured or in process of manufacture for the general market.

(d) Goods manufactured or in process of manufacture on specific contracts.

(e) The natural products of the soil or natural resources extracted from mines, oil wells, timber lands, etc., produced in marketable form by owners engaged in operating on their own premises.

In years gone by, before the incidence of heavy taxation upon net reveue, it cannot be said that universal custom prescribed any uniform basis of valuation for the commodity classes named above, either separately or in their entirety. Custom varied according to the inclination of the owners or executives of each business enterprise, but it may be said that they usually selected one or other of the following bases of valuation: (1) original cost; (2) original cost, reduced by any shrinkage in value indicated by current market prices; (3) liquidating value, or selling prices; (4) estimated cost of replacement; and (5) value to the going concern.

This freedom in the selection of a valuation basis for inventories of commodities which existed in practice prior to the year 1917 was not encouraged or endorsed or taught by the accounting text writers. On the contrary, except for an occasional advocate for values more or less current, the text writers exhibited decided partiality for the second of the valuation rules named above—a rule which has been concisely described as "cost or market price, whichever is the lower." Nor do the text writers recognize any different valuation rule applicable to any of the classes of goods which we have noted. All are confounded in the same valuation rule, with an occasional reservation, however, as

to goods manufactured or in process of manufacture on specific contracts.

The position was stated officially in London on June 14, 1917, in an opinion expressed by members of certain eminent firms of accountants constituting a committee of consulting accountants, in a report to the board of inland revenue, which contained the following paragraph, afterward adopted verbatim by that board:

> "All stocks of every sort or kind should be valued at the end of each accounting period on the basis of cost price or market value, whichever is the lower. The principle rests upon the theory (which is perfectly sound) that profits can only be realized by the sale of commodities and that no profits can arise by mere increase in value unaccompanied by a sale."

The thought underlying the somewhat loose phraseology of the committee's opinion is sufficiently evident, but is not likely to be accepted among accountants generally for several reasons.

First: it considers as a principle, and as a perfectly sound theory, the inconsistent idea that the acquirement and retention of property may imply a contemporaneous loss, but cannot imply a contemporaneous profit.

Second: it defends on grounds of principle and theory a valuation rule which rests on an illogical foundation, which originated as a practical measure to combat the formerly prevailing tendency to over-estimate profits and was adopted as an accounting expedient solely from motives of prudence and caution.

Third: it assumes that the invariable effect of this valuation rule is to prevent registration of any profit in the annual income account in regard to unsold goods. There is no such invariable effect, however, when goods are carried over during more than two consecutive years.

Fourth: it declares that a uniform valuation rule is applicable, necessarily, alike to the business of merchandising, to the business of manufacturing and to the business of producing commodities from the soil or from natural resources; applicable alike to commodities of all classes, whether acquired by purchase, by manufacture or by natural production; applicable alike whether or not the original cost of commodities has any present meaning or significance or represents more or less current values. Apparently, nothing is exempt from the rule, not even the many indus-

tries in which it is impossible to ascertain the original cost of commodities produced and the rule cannot be applied.

The general effect upon the income account which arises from applying to unsold goods the valuation rule of cost or market price, whichever is the lower, is essentially discriminatory; for it allows the registration of unrealized losses, while refusing to allow the registration of profits similarly unrealized, the basis of the figures in each case being market values. Obviously, if this market price is admitted to be an element in the situation and may be adopted to register an unrealized loss, then consistency demands that it should be adopted to register an unrealized profit. If uncertainty as to the price which will be realized ultimately for unsold goods is a valid reason against adopting the higher market value, the same uncertainty is an equally valid reason against adopting the lower market value. Uncertainty as to the ultimate price to be realized for unsold goods furnishes no more and no less justification, in logic and in practice, for registering an estimated loss in the income of a given period than it does for registering an estimated profit.

Formerly, the apologists of this valuation rule, while admitting its fundamental inconsistency and lack of sound basis, defended it solely on grounds of expediency, declaring it a precautionary measure against the danger of over-estimating profits. The valuation rule arose in times when the practice was quite prevalent of over-estimating the value of the assets, thereby over-estimating the profits; in times when the fear of profit inflation exercised a powerful influence upon the teachings and practice of accountants; in times when courts of law, desiring to protect investors, were inclined to limit the concept of commercial profits to profits which had been actually realized or to profits which were available for dividends. It was not foreseen that the time would come when the opposite tendency would involve greater and more serious abuses, through under-statement of assets and profits. In these days of high rates of taxation upon annual net income, there is not the same need for accounting expedients designed solely to prevent over-statement of profits.

The London committee, as we have seen, claims to have discovered a "principle" and a "perfectly sound theory" by which to explain the discrimination which pervades this valuation rule.

Unfortunately, the committee's theory is itself of dubious validity; and, further, whether valid or not, it furnishes no ground whatever for the discrimination.

For if, as the committee says, "profits can only be realized by the sale of commodities," then the converse of the proposition is equally true: "losses can only be sustained by the sale of commodities." Again, if "no profits can arise by mere increase in value unaccompanied by a sale," then it is equally correct to add: "no losses can arise by mere decrease in value unaccompanied by a sale." (Of course, we assume that no physical deterioration has occurred.) To expand the committee's theory by these logical additions is to destroy it as an explanation of the valuation rule. Incidentally, it is surprising to find the committee clinging to the old idea that a profit must be "realized" before it may be taken in the income account.

Further, the working of this valuation rule does *not* prevent, necessarily, the registration of profits in the income account of a given period in regard to unsold goods nor prevent the registration of "mere increase in value unaccompanied by a sale" in the income account, which the committee finds so obnoxious. For both these events would take place, in the case of goods which had been on hand for some time, when a rise in quoted prices occurred after a previous fall in quoted prices had been registered in the income account of a former period as a loss.

Having disposed of the theory of the London committee as a defense of the illogical discrimination which results from adopting the valuation rule of cost or market price, whichever is the lower, it is time to examine the merits of the theory itself. The first dictum is that, in the case of commodities, "profits can only be realized by sale." As we are not dealing with realized profits but accruals of income, we may give this phrase the benefit of amendment to read "in the case of commodities no profit may be taken into the income account until they are sold or otherwise disposed of." Even in this amended form, the doctrine is denied by high accounting authority, notably by Professors Paton and Stevenson in their exhaustive review of the subject contained in *Principles of Accounting,* edition of 1919, chapters X and XX. Further, in the case of commodities produced from the soil by cultivators and natural resources extracted from mines, oil wells,

timber lands, etc., by operators, the dictum of the committee is against the weight of custom and common opinion. Nor, in the case of manufactured goods which have reached their marketable form, is the dictum free from serious objection.

In regard to the second observation of the London committee —that no profits may be implied from increase in value of unsold commodities—we must assume that it refers to commodities which have not changed their original form, for the increase must refer to definite unchanged articles. Within this limitation, and so far as it involves any appreciation in value of commodities acquired and retained in their original form over the value which existed at the date of acquirement, there is no doubt that the weight of legal opinion sustains the view that accrued appreciation of property in its unchanged form should not be taken into the income account prior to its realization.

It seems to us, however, that both the advocates and the opponents of the idea that no profits or losses may be implied in respect of undeteriorated goods which have not been marketed (in other words, the advocates and the opponents of the valuation rule of original cost) are alike mistaken in seeking uniform rules for unsold goods of every sort and kind, regardless of the conditions under which the goods are acquired. It does not follow, necessarily, that the same basis of income reckoning and, consequently, the same valuation rule are applicable to (a) goods purchased for resale in their original form, or for use in manufacturing and productive processes and facilities, and (b) natural products or natural resources put into marketable form by cultivators and operators.

The valuation rule of original cost when applied to the unsold goods of traders, dealers and merchants whose business it is to purchase commodities for resale in their original form is a sufficiently workable and satisfactory rule. The objection which has been made to the valuation rule of original cost, namely, that this cost has no present significance and may not measure the true economic resource at the present disposal of the owner, loses much of its force in this case, for, as these unsold goods are usually deemed to be those most recently purchased, their cost usually represents more or less current values. By adhering to this valuation rule of original cost for the unsold goods of

traders, etc., one avoids a practice condemned by the weight of legal opinion, namely, that of taking into income an accrued appreciation in the value of property prior to its realization. Another advantage of adopting this valuation rule for this class of goods is that original cost is readily determinable in most cases; further, that it establishes a fair measure of equality and price uniformity throughout a given industry. Finally, as the spread between original cost and cost of replacement is not usually large in these cases, the argument for the latter basis of valuation becomes theoretical rather than practical.

The effect upon the income account which is reached by applying to unsold goods the valuation rule of original cost is to measure the profits or losses of a given period by the amount of sales within the period and to allot profits only to periods in which sales are consummated. In the case of traders, dealers and merchants whose business it is to purchase commodities for resale in their original form, this emphasis upon sales as the controlling factor in the accounting scheme is natural enough, for selling is the predominant feature of the merchant's business; he thinks and operates in terms of sales; his business ceases when there are no sales; and it would be unnatural for him to keep his accounts and measure his costs and profits and losses in any other terms than those of sales.

A complete antithesis to this situation is presented in the case of producers of natural products of the soil or producers of natural resources extracted from mines, oil wells, timber lands, etc., operating on their own premises. With these producers, the marketing of the product is usually a secondary and incidental matter, and the primary consideration is volume of production. The predominant feature and main effort of their business is production; they think, act and operate in terms of units and measures produced; when production ceases their business is in liquidation; and they measure their costs, their profits and their losses in terms of production.

As a rule, the producer markets his product more or less currently, at publicly quoted prices; and a normal profit or loss may be reckoned with a reasonable degree of approximation on the year's production, even though some of it may not be marketed until the following year. If the producer does not choose to

market his product currently and allows it to accumulate, it is in the nature of a speculation, usually—and the result of this speculation is a separate matter, not to be confused with the normal profit or loss on the year's production with which the producing business was entitled to reckon.

It would involve curious economic ideas to suppose (for illustration) that during periods of wide margin between cost of production and selling prices, highly lucrative production of metals from a mining property might continue indefinitely without resulting in any earnings to the enterprise, so long as no metals were sold and they were allowed to accumulate.

It would appear, then, that in the case of these producers of natural resources, etc., profit or loss attaches during the period of production to all the product which has been put into marketable form, whether actually marketed or not. The product which has not been marketed, that is to say, the product corresponding to the unsold stocks of merchants, should be taken into the account of the period at its "fair value to the going concern." Only by doing so is it possible to give to the period in which the main effort and service were rendered a fair and commensurate return.

By "fair value to the going concern" we mean (a), in the case of products under contract of sale for delivery in the future, the selling price after making due allowance for unpaid charges and (b), in the case of the remaining product unsold, a reasonable estimate of its fair value, based upon good judgment of market conditions and with due allowance to cover the unpaid charges and the risks intervening before it will be marketed.

Not only does the nature of these operations require that such unsold commodities should be taken into the income account of the production period at their fair value to the going concern, and not at their original cost, but practical considerations exclude the latter basis. The first of these is the difficulty, frequently the impossibility, of ascertaining the original cost. Again, this cost frequently has no present significance and varies widely from more or less current values. Finally, the use of original cost, even when it can be determined, would present an extraordinary extent of price variation for the same commodities in the same industry.

Unsold manufactured goods which have been put in market-

able form present many analogies, frequently, to unsold commodities which have been produced from natural resources by cultivators and operators. The main effort and service which were required to bring these manufactured goods into their commercial form were expended usually during the period of production. The effort and service of the period during which goods are fabricated are entitled to commensurate reward within the period itself—this commensurate reward applied to the entire completed output, including the portion unsold. For this reason, the unsold fabricated goods which have reached complete marketable form should be valued in the income account without regard to original cost.

It is to be noted that in applying the valuation rule of "fair value to the going concern" to natural commodities which have been put into marketable form by cultivators and operators, but have not been marketed, and in applying the same rule to manufactured goods which have been fabricated in complete commercial form, we are not brought in conflict with the prohibition against taking into the income account a mere increase in value of property, for, as we have seen, this prohibition applies, necessarily, only to goods which have not changed their original form.

In conclusion: the business of merchandising and trading has its own accounting scheme, which is governed naturally by the emphasis upon selling. The business of the producer of nature's commodities has a different accounting scheme, which is governed naturally by the emphasis upon production. The business of the manufacturer occupies an intermediate position, dependent upon the particular circumstances of the case and whether the emphasis is upon selling or upon production. The rules for ascertaining the net revenue of a given period, so far as they relate to the value to be placed upon unsold goods, are not necessarily, or even naturally, alike for each of these three classes. The valuation rule to be adopted for a given class of goods should depend upon the character of the business, the nature of the controlling accounting scheme and the manner in which the unsold goods were acquired—whether by purchase in their original form, by extraction from the earth or by manufacture.

Accounting for a Cast Iron Pipe Foundry*

By A. Karl Fischer

The Situation To-day

Before going into a discussion of the pipe industry in normal times, I shall discuss some of the problems brought about by the war which the accountant is sure to have to face. There are few industries that war conditions have not changed. Not only have prices been entirely upset, but in many instances the industries themselves have been revolutionized. The iron and steel industries in this country had flourished prior to the war, and the heavy burdens placed on manufacturers meant merely elaboration and extension.

In the cases of the individual concerns, however, many can scarcely be recognized as the manufacturers of a product once uniform in character and quality. Almost any concern working in metal was able by employing initiative to obtain profitable orders, the need for which was created directly or indirectly by the war. In many cases the manufacture of the new product was quite different from any previously undertaken. This expansion was often necessary for existence, for the demand for some products diminished during the war.

Almost all pipe manufacturers make as auxiliary products some other machinery which may be used by gas and water companies. These include such items as fire hydrants, valves, gas-producers, gas-holders, pumps, etc. Because construction of pipe lines by gas and water companies was generally postponed after the beginning of the war on account of the prohibitive prices, it was quite necessary to seek contracts of a new and different character as well as to take war contracts. The construction of machines to be used in ammunition plants was one thing undertaken. This necessitated the installation of much new machinery—some being well adapted to the manufacture of gas-holders, gas-producers and other machinery where the casting process is not involved. The installation of such ma-

* A thesis presented at the November, 1919, examinations of the American Institute of Accountants.

chinery increased the capacity of the plant for the making of auxiliaries.

While conservatism might prompt charging as much as possible of such additions to operations, correct principles require that all machinery which will have a usefulness in the normal industry shall remain in the plant account. The company will be able to sell many machines which are made of wrought iron or of steel and may have established itself very firmly in this business which before the war was a minor consideration.

The methods of handling and machining pipe and heavy machines undergo a gradual but constant change, and the opportunity may have been taken to replace some antiquated equipment with that of a greater capacity. Here if depreciation charges have been insufficient, in view of the large profits which were earned the splendid opportunity of writing off the values of old machines replaced or abandoned should be pointed out. It may be unnecessary to state that the federal income tax will be an excellent aid in such an effort.

The making of pipe often having been entirely discontinued the foundries were allowed to stand idle. The manufacture of pipe is still not very active. Consideration must be given to the effect which this will have on depreciation and on possible obsolescence.

One company had to put up new buildings for the sole purpose of storing patterns and flasks—one building particularly well protected against fire for the storing of wooden patterns and flasks. I might add that this was done after a rather disastrous fire. While foundry work was going on, this equipment had been kept in convenient places in the foundries and yards. The cost of such new buildings should be liberally charged off, for they may have little usefulness when casting is actively resumed. Here the charging off of the entire amount is excusable.

In the case of another company the production of gas and water machinery, other than castings, has been so increased that the possibility of the complete discontinuance of the production of pipe and castings should be considered.

In another case the erection of parts of gas and water plants has been undertaken by the manufacturer. Here the accountant should insist on proper accounting in regard to the contracts.

He will probably find the management somewhat at a loss to know how to handle the accounts with these contracts and he will have to explain the best practice. While a conservative estimate of the profit actually earned may be taken if desired, the dangers of anticipation of profits should be carefully avoided. In one case I have in mind, the management has adopted the commendable policy of taking no profit until a contract is complete.

The details of the pipe and foundry industry in normal times will be taken up under the following headings.

Balance-sheet,
Revenue and expense accounts,
Production and cost finding.

Balance-sheet

Property: The storing of pipe requires extensive yards and one of the chief requisites of the location for a pipe foundry is that land shall be cheap. The result is that foundries have usually been built in localities not previously settled. The mill usually owns much of the surrounding land, on which employees' houses are built and where farms will occasionally be in operation. The cost of the land should appear in separate property accounts according to its use.

There are no abnormal conditions affecting the depreciation of buildings, but some consideration must be given to obsolescence. Many old-style foundries are still in operation, but they do not permit the production that can be obtained from the modern pipe foundry. The old-style foundry had several pits, while the modern pipe foundry has only one pit and a much greater capacity. The old-style foundry employs hand-operated chain hoists for removing patterns from the molds and cores from the castings. The new foundry does all this work with cranes. Usually, one size of pipe is made in the new foundry at each heat, and the manufacture of the entire capacity of the foundry can be completed in 24 hours. These improvements merely illustrate the advantage of new buildings over the old.

The machinery and equipment, such as cranes, ladles, locomotives, cars, etc., have a comparatively long life, but improved machinery is constantly being installed. Much of the work on

pipe can be done almost entirely by machinery, but in some plants labor is still employed where machines could do the work more cheaply.

Cupolas must be frequently relined. The experience of a company will determine the life of the lining and the cost should be written off on a tonnage basis.

The life of machines in the machine shop, such as lathes, boring mills, planers and multiple drills, will probably be shorter than in the foundry, where methods change less frequently.

All pipe manufacturers must make some castings on special designs and on special orders. The cost finding will be discussed under a subsequent heading. The patterns and flasks must, however, be handled differently for pipe which is a standard pattern and for any special casting. Even the head patterns for flanges and bells, which are part of the pipe, are often molded on special patterns.

The steel patterns used in molding pipe have practically the same status as machinery. Their cost can, however, be charged directly to the sizes of pipe on which used. The cost of all patterns for special castings—which besides head patterns will include T's, elbows and other special work necessary in the laying of pipe lines—should be charged against the individual orders. Some T's and elbows are carried in stock, and the cost of patterns for these may be distributed over their life. Wooden patterns should be depreciated more heavily, but follow the same general principles as the steel patterns. The wooden patterns, however, will be found to have been constructed mostly for special work. The cost of patterns used in making "barrels" (the trade name for the flasks used in making pipe) should be charged to the first flasks constructed. Having acquired a stock of standard patterns there will be frequent replacements, and these should be charged against reserves.

The cost of flasks will be distributed over the product in the same manner as that of patterns. The cost accounting will be a little more difficult, as one flask may be used on two or three different sizes of pipe. Iron flasks in property accounts will be treated the same way as patterns. Wooden flasks have often comparatively small value and may usually be charged to produc-

tion the first month, even though their life will be considerably longer.

Companies frequently owns employees' houses. Depreciation is seldom considered, and the argument about the appreciation of land value will usually be encountered.

Inventories: Perpetual inventories of stores must be maintained. Purchases will be charged to the several stores accounts and when requisitioned will be credited thereto and charged to the various departments. The principal accounts which will be maintained are: pig iron, scrap iron, cupola coke, coke (for drying castings), cupola coal, power coal, sand, hay (for use in making hay rope), hay rope (for use in making cores), wood (for use in making patterns and flasks), limestone (used in the cupola), core compound, oil (for use in making cores), blacking, coating, paint and stores accounts for foundry, pattern shop, machine shop and power house.

Reserve for depreciation: I have discussed depreciation for the various classes of properties under their respective heads. The reserve as thus determined will, of course, appear on the balance-sheet. It is preferable to show this as a deduction from the combined property account, especially if computed on the basis of actual life of the various classes of property.

Accounts receivable: There should be very few losses on bad accounts, as most sales are made to municipalities after ordinances have been passed authorizing construction. There may, however, be some claims for damaged pipe. Some losses may be recovered from railroads, but any damage claims, if carried at all, should be valued very conservatively. The claims for defective pipe will not be large, for most pipe is proved at the foundry by a representative of the municipality or other consumer, and either accepted or rejected there.

Miscellaneous: It is usual to enclose a cheque with bids for contracts. These are invariably returned when a bid is accepted or rejected. There is therefore very little question about their value as assets.

The other balance-sheet accounts present no features not encountered in other industries.

Revenue and Expense Accounts

Before discussing revenue and expense accounts themselves something should be said about marketing. A market for gas and water pipe can only be created by the growth of communities and their gradual education up to their needs. The important part for the manufacturer is to learn where municipalities or occasionally corporations are contemplating new construction or extension. Bids are submitted for the work, but high-class pipe men will be needed to close contracts. A large pipe manufacturer must sell pipe in all parts of the United States and will be compelled to have variable prices to compete with mills close to the consumer. Contracts are usually made f. o. b. destination, and prices are made to include the freight. The keeping of trustworthy costs is essential, for bids on large contracts must occasionally be made at short notice, and an unfavorable contract might prove disastrous.

Sales: Sales will include a large amount of freight, and the freight and expressage accounts should be separated into the same classifications in which it is desired to keep the sales accounts. A suitable classification has been found to be bell and spigot pipe, flange pipe, bell and spigot fittings, flange fittings and miscellaneous castings. Returns and allowances will be separated in the same way; but these should be very small as explained above, for defective pipe will be rejected at the foundry. For the general books, cost of sales will be divided in the same way.

Miscellaneous: There is nothing to indicate that selling expenses and administrative and general expenses apply against any particular class of product. There is, therefore, no purpose in trying to distribute them over types or sizes. The same expenses as are found in other businesses will appear here and it is unnecessary to list them.

Rent and maintenance of company houses should have appropriate accounts. Here, as usual, the system of accounting for rents must be investigated. A plan of properties owned should be on hand, but, strange to say, a complete plan is seldom to be found.

If it is desired to show the cost of sales under general ledger captions, the following accounts will usually be maintained:

labor, pig iron, coal, coke, sand, straw, facing, oil, miscellaneous supplies and expenses, taxes, insurance (fire), employers' liability insurance and superintendence.

Production

Peculiarities of production: While sales of pipe and other castings are not constant, even in normal times, their production may be made more or less so. Here the foresight of the management is a necessary asset. Great quantities of pipe may be made and stored in the yards. Advantage should be taken of the fluctuations in the cost of pig iron. There is as much danger of overstocking of pig iron as there is of pipe.

When sales of pipe fell off during the war many mills found themselves with a large stock of pipe on hand which had no ready sale. The manufacture was cut down and the stock eventually sold, but at a price, warranted by the high price of pig iron, which yielded a handsome profit.

Processes: Before going into the methods of cost finding the various processes and departments should be understood. A brief outline of manufacture is given.

Pipe may be completely manufactured to the entire capacity of the pit every 24 hours. The cupola is charged during the afternoon, draught turned on at about four o'clock in the morning and the molten iron poured at about ten o'clock in the morning. A charge includes pig iron, coal, coke, lime-stone and possibly some chemicals.

After removing finished pipe the barrels are again set up for the next day's heat. The sand is poured and rammed and the pattern is pulled through the sand, making the mold. The molds are dried by stoves, arranged in the pit, on which barrels are set. These stoves are fired by coke. The cores, the making of which is a separate operation, are inserted in the mold. The head pattern (the mold for the bell or flange) is then placed on top of the barrel and the complete mold is ready to be poured.

After the pipe has sufficiently cooled it is placed on skids, and goes from one skid to another through the processes of cleaning, coating and the various tests necessary in the proving.

Making of cores is a separate operation. One man usually works upon the same size cores continuously. The core-bar is

placed in a lathe and receives a coating of mud and hay rope, until it reaches the thickness of the inside circumference of the pipe. The hay rope burns when the casting is made and loosens the sand and enables the core to be easily pulled out of the pipe. These cores must be baked in an oven for the purpose.

The mud to be used in cores is prepared by the mud mill. It includes mud, oil and core compound.

The making of hay rope is another distinct process and the completed product is turned over to the core rooms on spools.

Yardage expense includes storing and loading charges.

Pipe is usually tested by an inspector from the consumer, but all pipe must be proved and tested by the manufacturer.

The making of special castings will go through the same general processes, but the uniformity of method will not be possible.

In the modern foundry the placing of the barrels, ramming of molds and inserting of the cores are done by one electric crane. In a more antiquated foundry chain hoists, cars, etc., may be found doing this work.

Some pipe, especially flange pipe, will have to be machined (bored, drilled, planed etc.). There will be a machine shop for this purpose.

Both wooden patterns and wooden flasks will be constructed in the pattern shop. The building of patterns requires high-class carpentry work as well as designing. Flasks are usually no more than boxes without bottoms.

Power production is another process.

The making of brass castings for fittings for special castings may be done by contract, and the keeping of costs or accounts will depend upon the conditions.

Cost finding: For many years it was considered sufficient to distribute costs of various sizes by production weights. In some mills most of the costs are still so distributed. But it has been found possible and practicable to allocate all costs to sizes on a more scientific basis, and such methods as are hereafter outlined are actually in use to-day.

Overhead will have to be charged to the departments. Superintendence must be distributed on an arbitrary basis. Taxes and fire insurance can be distributed to various departments on the

appraisal basis; employers' liability insurance on a labor cost basis. Power and light may be metered to departments. If not metered they can be estimated fairly accurately. Very little power except on cranes will be used in the foundry. Power is used for most operations in the machine shop; for some in the pattern shop; for practically all in the pipe core rooms; and for all the making of hay rope.

Depreciation has not been included with these overhead expenses, because it may be treated as a direct cost. The experience in each department will determine the best basis for allocation to various types and sizes.

The making of hay rope is one simple operation, and the labor, hay and overhead costs for the entire month divided by the production weight represent the cost per pound of production. This is the cost at which the hay rope is charged to the pipe core rooms.

The cost of mixing mud for cores is obtained in the same way as that of hay rope and charged to core room in the same way.

In the core room the same men work on the same size cores all the time and they report the materials used when reporting their time. It will be found in any foundry that there is some one, usually the superintendent, who has a very good idea of the principles affecting the distribution of the overhead to various types and sizes. Baking and power as well as general overhead expenses do not necessarily vary with the sizes of pipe by weights or by measurements, and labor cost or labor hours may be used as well for the distribution of expenses. The power consumed in turning cores of different sizes, for instance, will be practically the same—as will the cost of baking.

In the pipe foundry all labor can be charged direct to each size and type of pipe. Likewise all materials can be so charged, excepting iron. The vats where pipes are dipped for coating or blacking are filled from time to time and the cost is distributed to the sizes and types on a tonnage basis.

All expenses of the cupola—labor, "the charges," a provision for relining—are charged to cupola cost account. The hot metal cannot be weighed conveniently and the cost of iron as shown by the cupola cost account is charged to the various types and sizes on the basis of tons produced.

A fixed rate for each size and type of pipe should be established for depreciation of patterns. Another fixed rate should be established for depreciation of flasks for the several sizes and types. These two kinds of rates must be calculated somewhat differently because one pattern makes only one size of pipe, but one flask may make two or three sizes. At the end of any annual or other convenient period an adjustment of these rates may be necessary to bring the costs into agreement with the annual estimate.

Experience will have to determine what basis for the distribution of several other overhead expenses should be employed. It should be noted that the coke used in drying molds can be charged direct to the various sizes and types.

Storing and loading should be distributed to all castings on a tonnage basis.

Only a part of the product, whether special castings or pipe, will need to be machined. There is seldom any machining necessary on bell and spigot pipe, but always on flange pipe. Here labor cannot be charged direct to the types and sizes, for one man can work on more than one machine at a time.

There will be few materials in the machine shop. It is not easy to keep a record of machine hours, nor is it considered that this basis properly takes care of each of the overhead expenses. The most practicable plan has been found to be to distribute the entire cost of the department to each type and size in the proportion that the time of each in the shop multiplied by the weight bears to the whole production calculated on this basis.

With modern manufacturing methods defective work is not a considerable item. The pipe is proved the same day it is manufactured and if defective is immediately broken up and scrapped. This scrapped pipe is kept in one place and eventually returned to the cupola. At the end of each month an inventory of this scrap pipe is taken and the cupola cost account is credited with the manufacture of that amount of scrap iron before costs are distributed to the sizes and types. It is charged with the value of scrap pipe on hand at the beginning of the month. This makes the entire production of each type or size of pipe bear the cost of defective work over and above the iron cost.

In the case of some of the old-style foundries defective work

may be a considerable item and the cost of production should not be made to bear this expense. The entire cost of the pipe after deducting the scrap value should be charged to a defective work account, and may then be distributed as overhead to the entire product or, preferably, be considered a profit and loss item.

Work in progress: In the hay rope building we have either hay or hay rope. In the mud mill the quantity of mud ready for use in making cores at any time is inconsiderable. In the core rooms the cores made the last day of the month constitute work in progress, for the cores are made up each day to fill the requirements in foundry the next day. In the foundry the entire cost for the month up to about one or two o'clock in the afternoon of the last day will be represented by pipe. The cost of setting up the barrels, of ramming, etc., for the next day's heat will represent work in progress.

Accounting for Railroad Construction*

By George M. Hofford

A railroad corporation, like other corporations, is organized under the laws of the state. Articles of incorporation are drafted and signed by the incorporators; the stock is subscribed, and the necessary payments are made thereon, in accordance with the laws of the state; directors and officers are elected; by-laws are drafted and the articles of incorporation, with information as to the board of directors, general officers, subscribers, amount of capital authorized, amount paid and any other information required, are filed with the properly designated state and other public officers. The secretary of state then issues a charter authorizing the corporation to do business, with the right of eminent domain.

The directors are chosen by the stockholders and in turn elect the general officers, whose duties and authority are prescribed by the by-laws.

The elective officers are president, vice-president, secretary, treasurer and auditor. A chief engineer is appointed by the president; the engineering staff is selected; and the work of reconnaissance, locating and surveying routes is begun. As the company is under the necessity of acquiring land for right-of-way, one who is familiar with land values is appointed right-of-way agent to attend to purchasing the land required for right-of-way when the route has been selected.

As the locating engineers send in their field notes and the routes are approved by the chief engineer, maps and profiles, together with description of the location, showing starting point, direction, contour and end of the survey for a particular location, are submitted by the chief engineer to the directors, who in regular session and in lawful manner approve and sign the maps submitted, adopt the route and file a copy of maps and description with the proper state officer. This establishes the corporation's right to enter upon and construct the railroad, after, of

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course, acquiring title to the land either by agreement with the owner or by condemnation proceedings.

It is the auditor's duty so to arrange the accounting plan that the receipt and disbursements of funds are carefully and systematically chronicled and safeguarded and the cost of road and equipment is kept in accordance with the classification prescribed by the interstate commerce commission.

As a safeguard in the matter of purchasing and paying for right-of-way and other lands the auditor should secure from the chief engineer blue prints of the routes adopted, and as contracts are delivered by the right-of-way agent the land acquired should be sketched on the map, showing the contract number, in order that the auditor may be in a position to reject any duplicate contract which may through inadvertence or otherwise be offered him. It follows that when the land has been acquired for the entire route it will be an easy matter to find a contract, deed or abstract of the property, as all title papers will bear the same numbers as the contract and be filed with it as permanent records. When a voucher is offered for payment by the right-of-way agent for the purchase of land the auditor before approving the voucher for payment by the treasurer should require evidence of

1. Approval of contract by the chief engineer,
2. Approval of title by the law department,
3. Notation of contract number on right-of-way map,
4. Entry on record of right-of-way purchases,
5. Entry on tax records,
6. Entry on insurance records (if a building is included in the purchase),
7. Entry in rental ledger (if a building is included in the purchase),
8. Entry in voucher register.

When these things have been done, the auditor is in position to see that taxes are not allowed to become delinquent, that insurance is not allowed to lapse on buildings and that rents are collected on buildings occupied by tenants.

The record of right-of-way purchases should be in loose-leaf form, with certain spaces for showing the contract number, description of property, name of vendor, number of acres (if

country property), lot, block and addition (if city property), cost of property, date of deed and when deed is received. There should be space also for recording sales either of land or buildings, so that the net cost of land retained for corporate use will appear. The total of these records should always equal the cost of land, as shown by the general accounts.

Contracts for the purchase of land should be filed promptly with the proper county officer of the county in which the land is situated, in order that the company's equity may be duly protected. As soon as the deed is received it should be immediately recorded in the county records.

As the auditor is, or should be, custodian of the abstracts of property, an abstract record should be kept. When an abstract is borrowed by the legal or other department a receipt should be obtained and a note made in the abstract record showing in whose hands the abstract is.

The chief engineer, with the approval of the president, contracts for the grading of the roadbed, the rates varying with the nature of the work to be performed by the contractor. It is usual for a monthly estimate to be rendered by the chief engineer covering the work done to date. From the total amount to date of estimate is deducted the amount previously paid, and an agreed percentage is withheld to guarantee completion. The auditor should keep a record of each contract and the progressive payments thereon, in order that he may quickly check the latest estimate rendered. When the contract is completed the amount heretofore held as guarantee of completion is included in the final estimate. The contractor should be required to furnish bond guaranteeing completion of contract, and also to protect the corporation from suits for injuries to persons or property by the contractor.

Tunnels, bridges and the several classes of buildings should be numbered or otherwise identified, and the records so kept that the cost of each unit may be recorded in subsidiary ledgers.

Rolling stock, timber, ties, rails and rail fastenings are purchased subject to certain specifications. When they are inspected by the inspection bureaus, the reports are forwarded to the chief engineer. The material yard superintendent forwards daily reports of the arrival of material and rolling stock. These reports,

with the inspection report and copy of freight bills, should be attached by the chief engineer to the suppliers' invoices when forwarding them to the auditor. All the papers should be retained by the auditor as his permanent record.

It happens that during construction of the road there are revenues from various sources, principally from rentals of buildings on land purchased for right-of-way and station purposes, as well as from transportation charges before the road is completed and ready to be delivered to the operating department. These revenues are credited and the cost of securing them is charged to an account entitled "revenues and operating expenses during construction," one of the primary accounts in the cost of road and equipment.

The interstate commerce commission authorizes the inclusion of organization expenses as one of the primary accounts in investment in road and equipment, but does not allow the cost of obtaining loans or expenses incident to the sale of securities to be charged to this account.

Taxes and interest on bonds or other evidences of indebtedness during the period of construction are chargeable to investment in road and equipment and a reasonable charge for interest may be made to this account for the carrier's own funds expended for construction purposes until the property becomes available for operation.

Purchasing of Supplies by Field Engineers

Because new railroad locations are frequently remote from points where supplies for the field engineers may be obtained by the purchasing agent, it is necessary for such engineers to purchase their subsistence and field supplies from other sources. In order that such purchases may be made in an orderly and systematic manner, requisitions printed in triplicate, consecutively numbered and bound in books with 50 sets to each book, should be furnished the field engineer in charge.

The original and duplicate, of different colored paper, should be perforated for removal from the book. When the requisition is written, a carbon copy should be made on the duplicate and triplicate. The original is then handed to the vendor, the duplicate forwarded to the chief engineer and the triplicate retained

by the foreman. When the vendor renders his bill he should attach the requisition to the bill; the triplicate should have a notation "bill passed (date)" and the bill should be forwarded to the chief engineer to check against his duplicate requisition, which should be attached to the bill when sending it to the auditor.

The requisition books should be pocket size, so that they may be readily carried by the employee authorized to use them. The auditor should keep a record of all such books purchased and names of employees to whom they are issued.

Paying Employees Discharged or Resigned

Time vouchers should be supplied the chief engineer, care being taken by the auditor to keep records of purchases and issues, as explained above, covering requisitions. The chief engineer should sign each of the time vouchers and show thereon by whom they must be countersigned to make them valid before sending them to his subordinates. He should notify the auditor of the names of his subordinates to whom time vouchers have been sent so that the auditor may have a record of location of each time voucher. When time sheets and payrolls are sent in at end of month a record of time vouchers issued should accompany the payroll, and the time voucher number issued should be shown in space provided on the payroll opposite the name of employee who has been paid off. On the payroll should be shown the lowest number of time vouchers unissued, to be sure that there has been an accounting for all that have been issued. Arrangements should be made with the banks to accept the time vouchers, when signed by the chief engineer and countersigned by the employee duly authorized to sign them.

After payrolls have been received from the chief engineer or from heads of other departments they should be examined and audited in the office of the auditor, and an office bill should be registered to the credit of payrolls and the debit of the proper accounts. Pay vouchers then should be drawn and recorded on the record of pay vouchers issued, which with the record of time vouchers issued should equal the amount of all payrolls. Entry is then made charging payrolls and crediting the new liability accounts, time vouchers and pay vouchers. As the banks present them the treasurer will take them up by issuing

his cheque for the total amount demanded by the bank and will render a list of time vouchers paid and pay vouchers paid, charging the total of such list to time vouchers or pay vouchers, as the case may be. These vouchers with lists and cashbook should be delivered to the auditor daily, with all other vouchers and cash receipts; and the auditor will then be in position to make a daily audit of the treasurer's accounts.

The auditor should then stamp the date paid opposite the entry for each of the time vouchers, pay vouchers and audited vouchers; and at the end of the month a list of outstanding vouchers should be prepared, the total of which should agree with the general ledger control accounts.

Mileage books purchased for the use of various employees for travel on other railroads should be charged to the departments' mileage book accounts at their cost when purchased. In order to clear these mileage book accounts, monthly reports should be required for each mileage book, showing the beginning number, number of miles traveled chargeable to each of the primary construction accounts and lowest number on hand unused. The mileage used for each account multiplied by the rate per mile for which the book has been purchased will indicate the amount chargeable to each account. The unused balance at the cost per mile will necessarily agree with the balance to the debit of mileage book account.

Work-train Expenses

A clearing account called work-train expenses should be maintained, and to it should be charged the wages of enginemen and trainmen and the cost of fuel, oil and other supplies used by the work train.

Time-sheets should be prepared, showing the various jobs on which the work train has been used each month, and the total work-train expenses should be allocated to the proper primary construction accounts on the basis of hours spent by the work train on each job, thus clearing the account work-train expenses.

Tools used in the construction of bridges and buildings should be charged to the bridge or building where first allocated, and as they are moved therefrom they should be inventoried in order

that the wear and tear and loss may be charged to the structure on which they have been used.

The sale of any material or supplies should be made only on approval of the president. The purchasing agent should make a sale order, in triplicate, sending the original to the departmental head authorized to make the sale. The duplicate should be sent to the auditor in order that he may be in position to watch for the accounting for the material sold. The triplicate should be retained by the purchasing agent, who should send the auditor a monthly report of sales authorized.

Bills rendered to the purchaser by the head of a department should have a reference to the sale order; and the auditor should attach his copy of the sale order to his office copy of the bill for his permanent record and authority to take the bill into the accounts.

Sale of real estate or the buildings thereon should be authorized by the president and board of directors, and the contract should be given to the auditor, who should record it on his records of property purchased and retain the authority with his copy of bill rendered the purchaser.

Monthly reports should be rendered showing the classified cost of road and equipment for the current month and the total to date.

It is desirable also that there be statements of deferred payments on right-of-way contracts, showing amounts due by different periods, the different classes of vouchers payable and amounts retained on contracts. These are needed in order that the president may have information in regard to further financing.

It will be the auditor's duty to prepare the accounting forms and instructions in ample time that when the railroad is ready to be delivered to the operating officers there may be no confusion of operating accounts.

Accounts of a Paper Box Factory*

By Thomas J. Shannon

The particular business I have in mind is that which has for its raw material waste paper, which it buys, collects, sorts into different grades, manufactures into various kinds of paper and cardboard and finally ships to the purchaser in the form of a carton or container.

Among the various accounting necessities of this industry there is one essential, on which I propose to base this paper, bringing out, incidentally, many of the peculiar accounting problems associated with it. This necessity is a cost accounting system. In addition to the several reasons why every manufacturer should have a cost system, there is in this industry one reason which of itself alone would be sufficient to justify any expenses incurred therefor. That is the need of an accurate basis on which to estimate competitive bids, because by far the greater part of the contracts received are for large quantities, often running up into the millions, on which, almost without exception, several manufacturers are asked to submit figures. Therefore, to secure the business the price must be reasonable, and if there is not an accurate cost system on which to base estimates the chances of error are altogether too great—and errors, if repeated, would result in serious financial loss, if not in bankruptcy.

What sort of cost system is required? This can be answered in one word: it must be "accurate," because on account of the infinite variety of the finished product no system of averaging will give anything resembling correct cost or be better than an estimate.

One of the peculiarities of this business is that sales of stock occur when, ordinarily, the stock would be treated as goods in process. For example, the paper stock department may accumulate a surplus of some particular grade of paper which there is no prospect that the mill department will be able to handle for some time, and it is deemed advisable to dispose of it; or orders

* A thesis presented at the November, 1919, examinations of the American Institute of Accountants.

may be received for paper as it is turned out of the paper machine; also, sales of blank cardboard to small box manufacturers are common. It is therefore advisable to divide the factory into three major sections, which we will call

The paper stock department,
The paper mill department,
The box factory.

These, of course, may be further subdivided into as many departments as necessary.

Costs in the paper stock department are quite simple. The raw material is the paper stock as it is collected. Productive labor is that of sorting and baling. Overhead is distributed according to the number of tons sorted and baled during the month. This method gives an average cost per ton of stock sorted and baled. In the case of paper stock of a uniform character, which has to be neither sorted nor baled, the cost is the purchase price plus the hauling charge and an addition for overhead determined by the percentage which the amount so purchased is of the total paper purchased, hauled, sorted and baled during the period. This method gives an accurate cost per ton of paper purchased not sorted. In the case of stock sorted and baled, the best we can do is an average cost per ton, which for the purpose of establishing the selling price is practically useless, because all grades have the same average cost and there is a wide variation between the market values of the different grades, some grades being worth two or three times the value of the cheaper varieties.

Thus, if a true cost of the product manufactured by the mill is to be determined, the paper stock department should be treated as a separate unit and the stock transferred to the mill at the market price. This method will show whether it is more economical to buy sorted stock on the open market or to continue operating the paper stock department.

The paper mill is a manufacturing department, and here costs are more involved.

Raw material is the sorted waste paper, as it comes from the paper stock department, and pulp, sulphite, colors and chemicals. To ascertain the material cost of each order is not a difficult matter, and most concerns of this kind find that averages work very well; but an accurate cost per order can be obtained through the

formula required by the grade of paper on the order, because every grade of paper and cardboard has its own particular formula, which should be rigidly observed if the strength, bending qualities and other essentials are expected. Therefore, each order must be taken separately, and the formula furnishes an excellent short cut in ascertaining the material cost.

The first operation in the manufacture of paper or cardboard occurs when the paper stock is put in the beaters and ground up. To mix his stock intelligently the beater-room foreman must know the amount and grade of paper required. From experience he knows the number of beaters he must mix for that amount, and, as the custom of the business allows a 5 per cent overrun or underrun on an order, if he uses ordinary care he cannot go far wrong. The dry stock capacity of every beater is known, and all that is necessary is for the foreman to report the number of beaters he mixed on each order, which, when multiplied by the capacity of the beaters gives the total weight of stock used. To this figure is applied the formula; and the amount of each kind of raw material for that order is determined.

The accuracy of this method can be tested by the perpetual inventory records, and should be checked every month if a material discrepancy occurs in any kind of stock. The orders manufactured during the month calling for that particular grade should be reviewed and the accuracy of the formula figures verified, though the error will probably be found in the inventory records.

In the manufacture of paper the machine is the governing factor. In distributing overhead the machine rate should be used and great care exercised to determine it as accurately as possible.

Labor should be analyzed by jobs and charged thereto. If sales of blank cardboard or fibre board are made, any additional labor, such as weighing, bundling, trimming or wrapping, should also be charged directly to the job benefited.

As the sales at this stage are often considerable, it simplifies the accounting to regard all the product as sold, including the transfers to the box division. As with the paper stock division, transfers should be made at market price.

The last division, the box factory, is by far the most important. Here averaging has no place and costs must be accurate, because on their accuracy depends the success or failure of the

business. An error of two or three cents on the estimated cost of a hundred cartons when multiplied by a hundred thousand may, if too high, mean the loss of the order, and if too low will undoubtedly mean its receipt and a financial loss to the company. One of the most fruitful sources of unfair competition is an erroneous idea as to what constitutes costs. Systems of calculating costs may vary and give several different results, all of which cannot be right—though they all may be wrong. As the cost of an article cannot be changed after it has been produced the thing to do is to change the method of calculating until the correct cost is determined.

On account of the great variety of the product manufactured, a cost by orders is the only practical method for a box factory.

The direct materials in box factory are more valuable and varied than in either of the other departments, and a complete system of storekeeping and perpetual inventories should be maintained. Everything used in the manufacture for an order which can possibly be charged directly to the job should be so treated—even such things as ink, tape, glue, wire for stitching, etc. As it is not possible to determine the amount of ink or bronze required on an order, a liberal quantity of each color necessary should be withdrawn from storeroom and weighed before being put into the printing press, and when the press has completed the order the amount remaining should be removed, weighed again and returned to storeroom, the difference being the amount used on the order. The amount of tape used can be determined by measuring the depth of the box and multiplying by the number in the order. Wire for stitching can be measured in a similar manner, by determining the feet, or weight, of wire used by a machine per thousand stitches, and, as each box requires the same number of stitches, it is a simple matter to determine the number of stitches in the order. Such accuracy may seem extreme and unnecessary to the uninitiated, but it is only by such methods that trustworthy costs can be secured.

In the manufacture of paper boxes, on account of the endless variety and size of the product, it has not been found practicable to pay piece-work rates to any great extent. In almost all factories workmen are paid an hourly or weekly rate; therefore, to arrive at the labor chargeable to any order every employee whose

labor is expended on a particular order should be instructed to charge the time so spent to that order, regardless of whether the form of product was changed when passing through his hands or not. If the work is essential, it should be charged directly to the order benefited, as that is always the most equitable manner of charging expenses, if at all possible. The best method of accomplishing this is to furnish every employee each morning with a list on which is printed the name and number of each machine in the department in which he is employed and also a list of the operations not performed on a machine, which are directly connected with a particular order. He should be instructed to show his time on this card by orders—hours and minutes on each—which should be checked by his department foreman each evening and compared with the employee's time as shown by clock cards. If this procedure is carefully followed and all employees are cautioned to fill in the actual time engaged on each job before starting another, it furnishes a good control of the labor and gives excellent results.

The distribution of the overhead still remains, and it is here that the accountant must exercise all his ingenuity that the distribution may be the best and most equitable possible and based on sound theory.

After a little consideration we discard as unsuitable several of the more common methods:

> Percentage of material method, because of the wide variation between the value of the materials used on different orders.
>
> Percentage of labor cost, not only because of the difference in the rates of wages but because all the product, even in the same department, does not utilize the same facilities to the same extent.
>
> The prime cost method, because it has all the defects of the two foregoing methods and does not provide a distinction between product manufactured by high-class expensive machinery and by less efficient and cheaper equipment.
>
> Percentage of labor hours, because it makes no distinction between the facilities employed and would result in overcharging the product of cheap hand labor and undercharging the output of expensive automatic or semi-automatic machines.

About all that is left is the machine-rate method. This system

gives the most satisfactory results, because it recognizes the difference in overhead expenses arising from the operation of different classes of machinery and absorbs as direct charges all overhead expense that can be associated directly or indirectly with the operation of any machine or particular area of the plant.

To get the best results from this system the factory should be highly departmentalized, each department comprising, if possible, only similar machines and processes. In addition to this, each machine in the department should be charged directly with all the expenses which can possibly be associated with it.

The best basis on which to apportion certain expenses is sometimes a problem, but as a general rule the following methods for the ordinary expenses can be followed with good results, provided that the figures from which the percentages chargeable to each production centre have been determined are correct:

Expenses	*Base of Distribution*
Rent	Area of space occupied
Depreciation on buildings	" "
Insurance on buildings	" "
Taxes on buildings	" "
Heat	" "
Janitor service	" "
Building repairs	" "
Depreciation on equipment	Value of equipment
Insurance on equipment	" "
Taxes on equipment	" "
Power equipment expense	Horsepower hours determined by test of load carried
Power equipment depreciation	" " " "
Current purchased	" " " "
Power department	" " " "
Current for light	Payroll hours
Lighting supplies	" "
Superintendent's salary	Chargeable hours
Superintendent's office force	" "
Superintendent's office supplies	" "
Factory telephone	" "
Elevator expense	" "
Foremen's wages	Payroll hours of department supervised
Foremen's clerks	" " " "
Overtime	Direct to job benefited

The hourly charge for each machine can be obtained by divid-

ing the total expenses charged to it by the number of productive hours worked during the period; or, if the expense applicable to the idle time of the machine is desired, we may divide by the number of productive hours in the period, assuming that each machine worked full time. The difference between the productive hours in the period and the productive hours worked multiplied by the normal rate gives the overhead applicable to idle time, which may be regarded as a department expense and be pro-rated over product of that department.

In a well-balanced box factory the item of idle time should not be an important figure. Many orders for large quantities are received which may require delivery of certain amounts each month for a period of six or eight months, so that at almost every season there are many unfilled orders, and if a dull period occurs employees and machines are put to work on them until current business becomes normal. This takes the place of what is known as manufacturing for stock in an industry where the product is more or less standardized, except in this case the product has been sold but must be stored for a period before being delivered. In the paper box and carton industry every purchaser has his own specific requirements—consequently nothing of a standard nature is used and manufacturing for stock is unknown.

In closing the books for the fiscal period these unfinished orders are in all sorts of condition. Often part of one order has been delivered, another part has been completed and is in the finished storeroom, a third part is uncompleted and in all stages of manufacture, and on still another part nothing has been done at all. If the finished and undelivered items are substantial the problem arises as to whether or not a profit should be taken on them. The general procedure is to inventory them at cost and allow the period in which they are delivered to have the profit; but if deliveries were made shortly after closing I cannot see why the period producing these articles should not get the credit. Of course, if the procedure were to be changed, the orders finished during a prior period and delivered in the current period would have to receive consideration.

Many of the large paper box manufacturing concerns are at present making extensive experiments with a view to expanding their rapidly increasing usefulness, and patented articles are quite

common. The accounting for this experimental work does not differ from that in any other manufacturing concern. The expense of each experiment is segregated, and if a patent is secured the amount is used as the base of the book valuation of that patent.

The future of the paper box and container is assured. Demand for these articles is constantly growing, and industries which formerly used wooden boxes exclusively have now discarded them entirely in favor of the more economical paper product. Serious inroads are also being made on other types of container, and in the near future it is quite possible that much of the food product now canned will be put up in some form of paper box or carton.

The industry offers an interesting field to the cost accountant, and to one who is so fortunate as to be connected with progressive concerns of this type the future offers unlimited possibilities.

Appraisals and Their Relation to Accounts

By Lester G. Hawkins

Appraisal and valuation matters have not in the past been regarded by the accounting profession as being related to or of more than passing importance in accounting theory and practice. In fact, many text-books on accounting procedure are known to express certain pertinent opinions and instructions, to the effect that appraised property values have no connection with book values, and should not be considered as having any particular importance to the auditor or business advisor, except so far as such values may be of assistance in credit and other purely financial matters.

This doctrine has been entirely ethical so far as the meaning of appraisal, as it has been generally accepted in the past, is concerned, yet it is the purpose of the writer to show that this general definition given to an appraisal has been somewhat misleading, and has thus caused these matters to be perhaps too summarily dismissed by the accountant as having no particular relation to his work.

Appraisals are not, as many suppose, all alike as to their form or scope, manner in which conducted and usage for which they are designed. On the contrary appraisals, as they have become necessary in the last few years, cover a very large number of usages, and the fact that many industrial and utility organizations have had appraisals made of their properties, only to learn a short time later that they required another appraisal for a particular purpose, which the old appraisal could not accomplish in any circumstances, is evidence of this fact.

The "reproduction" appraisal, which is conducted on the basis of "cost to reproduce" theory, is that commonly referred to by the average person in discussing appraised values. The fact that the uninitiated in valuation and appraisal matters have accepted this type of appraisal as being the entire field of the profession has brought about the generally distorted view referred to above.

The reproduction appraisal has its own particular uses and also its limitations. Among its uses are the following:

1. To place insurable values correctly.
2. To obtain loans.
3. To inspire confidence in stock and bond issues.
4. As a basis for negotiating purchase or sale.

The reproduction appraisal has no place in the accounting field so far as book values are concerned. The taking up on the books of values shown by such an appraisal is, of course, a violation of one of the most fundamental accounting principles.

The test as to what are the uses and limitations of an appraisal is found in the method prescribed for conducting it. An appraisal may be made of reproduction costs and used for any of the purposes above enumerated. It may be made of actual costs, or it may be made of market prices at any given date—and in each case may be designed for an entirely different purpose. The essence of the appraisal, it will be seen, is in the determination of value upon some given basis of cost.

An appraisal of property upon the basis of actual cost should furnish the correct book value of the property, by reason of the fact that it establishes the point as to whether the depreciation reserve is inadequate or excessive.

A reservation for bad debts is made in a manner similar to a reservation for depreciation. The question as to whether such reserve for bad debts is inadequate or excessive is, however, easily determined at the end of the period, because the information necessary to determine the matter is easily accessible. Is it not equally desirable that the question as to whether the depreciation reserve is inadequate or excessive be accurately determined at reasonable intervals? Unlike the allowance for bad debts, the allowance for depreciation cannot be checked at the end of the accounting period, since its justification cannot be fully established under ordinary conditions until the building or machine, after a long period of years, becomes worn out or obsolete. The appraisal, conducted by the scientific appraisal engineer who deals in utilities and values, can furnish the check desired at any time during this long period.

A most important development in the appraisal field has been brought about by our present federal excess profits tax laws.

Corporations' federal taxes are computed on the basis of the ratio between earnings and capital investment. The regulations of the bureau of internal revenue in regard to federal taxes have been based upon the assumption that in many cases book values are misleading and do not form a correct basis for the levying of taxes. To alleviate this situation the regulations have prescribed a remedy, which in many cases can only be applied through appraisal methods.

Representatives of the department, in their interpretation and rulings under the regulations, have also taken the position that appraisals, in the sense in which they are generally regarded, are not acceptable in any adjustments of plant accounts; yet they have specified in effect that the appraisal process is necessary in any adjustment of the fixed assets. A recent communication from the department is quoted in part herewith:

> Where there has heretofore been charged off excessive depreciation on property still owned or in use, or has been charged to expense amounts paid out for the acquisition of plant, equipment or other tangible property still owned and in active use, and where in either case the cost of the property has not been specifically recovered in the price of goods or service (special tools, patterns, etc.), then the amounts which have been charged off either as depreciation or as current expense, upon satisfactory proof, may be restored to the surplus account. In order to make such restoration to invested capital it is necessary to prove the amounts excessively charged. In the opinion of this office, if such charges are not readily ascertainable from the books, proof may be made by ascertaining the original cost of all fixed assets and then deducting a proper charge for depreciation.

The ascertaining of original cost of all fixed assets and then deducting a proper charge for depreciation is in any circumstances an appraisal process. Ordinary rule of thumb methods and percentage deductions based on estimated yearly rates of depreciation will not solve this problem.

To illustrate the impossibility of using such methods an example is given which is based upon actual facts known to the writer.

A textile plant, which several years ago adopted an accounting policy of preparing during the prosperous periods for possible future lean years, purchased machinery and plant equipment during those years and charged it to expense. Attempting, under the regulations, to reinstate these items in the machinery account less proper deductions for depreciation the company found itself confronted with a difficult problem.

It became evident at the start that no accurate adjustment

could be made from the books alone, since, although it was possible to trace to the expense accounts during prior years charges which should have been capitalized, the evidence that the equipment thus charged was still owned and in active use could not be obtained except by a complete inventory of the physical property.

Upon making such an inventory of the property and attempting to reinstate the items in the plant account, less proper deductions for depreciation, certain machinery subject to this reinstatement, on which an almost universal estimate as to the annual depreciation rate was five per cent, was found to have been in continuous operation in the plant for thirty years, and in such condition as to warrant a probable future term of usefulness of from three to ten years. Other machines of the same type, which were less than twenty years old, however, were found to be practically ready for the junk pile. This was due in some cases to the fact that the older machines either had been kept in better repair or had been subject to less wear and tear due to peculiar local conditions. Any attempt to determine the proper deduction from the cost of these machines for accrued depreciation by the use of cumulative yearly rates was so obviously incorrect and inadequate that it was abandoned. The determination of the proper deductions could only be made by ascertaining the actual depreciated value of the machines through inspection and consideration of the necessary factors, i. e., true cost, age, condition and probable period of usefulness—in other words, through a distinct appraisal process.

It is believed that the appraisal procedure outlined must of necessity receive consideration by the accounting profession. It accomplishes that which can be accomplished in no other way. Depreciation rates are at best only opinions and estimates, and even when advanced by the highest authorities they do not measure up to actual performances. Neither can past performances be regarded as accurate bases for estimates for the future, because industrial equipment is not only subject to changing conditions, but is of itself variable as to its susceptibility to wear and tear.

Appraisal is the adjustment between the estimate and the actual performance, and unless it is used periodically for such adjustment the book values will be distorted and reports showing results from operations cannot be regarded as accurate.

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EDITORIAL

Investments in Foreign Securities

The newspapers nowadays are filled with discussions of the lamentable condition of foreign exchange and advertisements of brokers, bankers and others, drawing attention to the peculiarly favorable returns which may be derived from the purchase of securities of foreign governments. We are told that investment in foreign loans may lead to a profit of from 100 to 200 per cent, according to the imagination of the advertiser, and the statements are supported by tables showing the present debased condition of foreign exchange compared with the parity, which, by the way, never exists. Exchange in francs or sterling, or any other foreign money, may go to a premium or a discount, but it never remains exactly at par.

However, for the purpose of comparison it is interesting to place the intrinsic value of foreign money against the present low price at which such money can be bought.

This is a matter with which accountants should acquaint themselves, as there is an increasing tendency among Americans to speculate in the bonds of foreign countries. A few years ago such operations would not have been described as speculation, but as sound investment. Now, however, when the world is in turmoil financially and no one can see the outcome, there are few investments which can be regarded as gilt-edged, and most foreign offerings have at least a speculative element in them.

A quite remarkable book by John Maynard Keynes, who was representative of the British treasury at the peace confer-

ence in Paris, has attracted a great deal of attention, and we believe will have a direct bearing upon the public opinion in regard to foreign government bonds. The book to which we refer, *The Economic Consequences of the Peace,* is evidently written by a man who, with a wide comprehension of the principles of international finance, regards the treaty as impracticable in many ways.

It is perhaps well that there should be such a book as that which Mr. Keynes has written, because some of us, particularly in America, are inclined to think rather lightly of the seriousness of the European financial and racial problems. The war and its resultant chaos are not matters of intimate concern to the average American, even of the better informed classes, and it is a good thing that we should be brought up with a round turn once in a while and told to face the facts. In facing the facts, however, let us not mistake clouds for night or dangers for disasters.

If America is to stimulate her foreign trade, something must be done to encourage the resumption of healthy relations between the moneys of the several European countries and our own. Trade reports already are indicating the inevitable decline in export business which must follow so abnormal a condition of foreign exchange, and we are told that something must be done to rectify matters without delay. One of the things which we can do is to invest largely in the so-called internal securities of foreign governments. But the investment must be wisely and cautiously made, for there are securities from which a return is improbable.

Some pessimists would tell us that even the internal loans of France, while not in danger of repudiation, may be in some danger of temporary default.

We do not believe for a moment that any security bearing the endorsement of the French republic or of Belgium is in danger of repudiation, and so far as British and British colonial obligations are concerned we regard them as almost as safe as the securities guaranteed by the United States government.

The whole question of investment in foreign securities should receive consideration by every accountant who is called upon to give financial advice—and in these days what accountant is not?

Labor and Capital

If you stop any man in the street and ask him what is the big problem of the hour, he will undoubtedly say: "The relation between capital and labor." He will say this whether he is a capitalist or a laboring man or one of that enormous inert mass of humanity which permits itself to be described as the middle class and is the grist which is being ground between the upper millstone of labor and the nether millstone of capital.

This problem probably has existed from the day when man hired his first servant, and it will certainly continue until the end of our present scheme of things here on earth. Once in a while the relations between the two great factors of production become strained, and we are told that a revolution is about to occur. Sometimes it actually occurs, and then as a rule hell breaks loose.

Here in America there is a vast number of alien laborers, led by a more or less unscrupulous coterie of agitators, which makes a great noise and threatens terrible things. The capitalist is denounced, and his ways are abhorred—and it is a lamentable fact that the capitalist generally becomes frightened and surrenders to the will of the labor agitator.

The American capitalist, instead of the awe-inspiring dictator which the labor leaders would have you believe him to be, as a general thing is rather inclined to do the best he can for his employees. In the past he has made tremendous mistakes and the laboring man has not had a square deal; but the capitalist has generally erred in ignorance, not with malice aforethought.

The American working man, as a whole, is about the finest type of skilled labor in the world. He is honest, usually straight-thinking, a good American at heart, and not much inclined to shoot up the town or tear down the structures of civilization. If you talk to him in the individual you find him all that you could desire. If you talk to him in mass when the labor agitator is around you find him incomprehensibly foolish. But you never find him at heart an anarchist. He believes in law and order, and in the last extremity he will stand for it.

Quite recently we heard of proposed solutions of the labor problem which seem to us worthy of reproduction, and all the remarks which have gone before are merely by way of intro-

duction to this simple idea, which is not entirely new of course—but nothing on such a question is likely to be new.

A speaker at a convention held near New York, in the course of remarks upon quite another subject, said incidentally that he believed the labor question could be solved by the adoption of two principles: first, that the laboring man, the capitalist or any other human being should have exactly the same voice in the industrial affairs in which he is concerned that he has in the political affairs in which he is interested; second, that the laboring man, the capitalist or anyone else concerned should be informed of the disposition of all the profits of any business or trade or industry to which he contributed financially or by service.

The first of these two propositions sounds like industrial socialism—and socialism has a deservedly unpopular place in public estimation to-day—but if we analyze the proposition it seems to have much to commend it. Of course, the actual development of the idea would require great thought. It might be necessary to place a different value upon the industrial votes of different classes so as to overcome the discrepancy between the numbers of human entities in the several classes. The idea, however, is pure theory at present, and we are offering it, not with any endorsement, but as an interesting academic proposal. It may be said for it, however, that a voice in the affairs of a nation generally carries with it an inclination to establish the strength of the nation, and the same principle might apply in the case of industry.

The second thesis, namely, that the disposition of profits of a business should be known to all who help to produce the profits, is one that must appeal to every sound thinking accountant. In these days of secret reserves and hidden surpluses on the part of companies and of absurd and disgusting extravagances on the part of people, one wonders whether complete publicity as to the destination of every dollar of profits would not do much to bring us to our senses.

Of course, everything that makes for clear statement of facts appeals to the accounting mind. To show things as they are should be the ambition of everyone connected with accountancy.

With this thought in mind we present to our readers this second part of a theory for solution of a world-old problem.

Differences of Opinion

It seems scarcely necessary to say that The Journal of Accountancy does not necessarily stand sponsor for all views expressed in signed articles which it publishes. We would not have thought it worth while to mention this fact at all had it not been for the apparent impression in the minds of at least a few readers that nothing could appear in The Journal of Accountancy with which the magazine did not officially agree in principle.

In this issue appears an article entitled *Unsold Goods and the Income Account,* by William B. Gower. The views expressed by Mr. Gower in this article do not conform to those of most accountants, and we do not endorse the arguments which he presents. The matter concerned is of great interest and Mr. Gower's remarks are ingenious and therefore worthy of consideration, but we doubt if they are sound from an accounting point of view.

It may be said, however, in Mr. Gower's favor, that, since his article was submitted to us, form 1040F, "Schedule of farm income and expenses," has been issued by the treasury department and contains an endorsement of his position. In the instructions on page 4 of the form appears the following:

> "Inventory. If you render your return for the taxable period of 1919 upon an accrual basis, you may value your closing inventory for 1919 according to the farm price method which contemplates valuation of inventories at market less cost of marketing."

It seems, therefore, that while the orthodox accounting principles may not accord with the views expressed by Mr. Gower, he has at least the consolation of knowing that the treasury has seen the matter as he sees it, with the important qualification, however, that the treasury limits the application of the rule to the inventories of farmers and stock-raisers, where the cost basis is especially difficult to determine.

Income-Tax Department

As this issue of The Journal of Accountancy goes to press there appears no indication of an intention on the part of the bureau of internal revenue to grant general permission to file tentative returns on March 15th. Public accountants throughout the country are laboring manfully to file as many returns as possible before the expiration of the time limit, but it appears likely that there will be many cases in which permission must be granted to file tentative returns which will be followed later by complete returns.

The commissioner of internal revenue has indicated his willingness to grant such privileges in meritorious cases.

The following treasury rulings have been issued since those published in the February issue of this magazine:

TREASURY RULINGS

(T. D. 2966, February 4, 1920)

Income Tax

Deductions allowed: charitable contributions—article 251, Regulations 45, amended

Article 251 of regulations 45 is hereby amended to read as follows:

Art. 251. *Charitable contributions.*—Contributions or gifts within the taxable year are deductible to an aggregate amount not in excess of fifteen per cent of the taxpayer's net income including such payments, if made (*a*) to corporations or associations of the kind exempted from tax by subdivision (6) of section 231 of the statute or (*b*) to the special fund for vocational rehabilitation under the vocational rehabilitation act of June 27, 1918. For a discussion of what corporations and associations are included within (*a*) see article 517. A gift to a common agency (as a war chest) for several such corporations or associations is treated like a gift direct to them. In connection with claims for this deduction there shall be stated on returns of income the name and address of each organization to which a gift was made, and the approximate date and the amount of the gift in each case. Where the gift is other than money, the basis for calculation of the amount of the gift shall be the cost of the property, if acquired after February 28, 1913, or its fair market value as of March 1, 1913, if acquired prior thereto, after deducting from such cost or value the amount, if any, which has been or which should have been set aside and deducted in the current year and previous years from gross income on account of depreciation, and which has not been paid out in making good the depreciation sustained. A gift of real estate to a city to be maintained perpetually as a public park is not an allowable deduction. This article does not apply to gifts by partnerships, estates and trusts; or corporations. See sections 218 and 219 of the statute and articles 561 and 563.

(T. D. 2967, February 4, 1920)

Income Tax

Amending article 367, final edition of regulations 45, concerning the use of substitute certificates

The final edition of regulations 45 is amended by changing article 367 to read as follows:

ART. 367. *Use of substitute certificates.*—Resident collecting agents and responsible banks and bankers receiving interest coupons for collection with ownership certificates attached may present the coupons with the original certificates to the debtor corporation or its duly authorized withholding agent for collection or may detach and forward the original certificates directly to the commissioner, provided each such collecting agent shall substitute for such original certificates its own certificates (form 1058 [revised] or form 1059 [revised]), and shall keep a complete record of each transaction, showing (*a*) serial number of item received; (*b*) date received; (*c*) name and address of person from whom received; (*d*) name of debtor corporation; (*e*) class of bonds from which coupons were cut (whether containing a tax-free covenant or not); and (*f*) face amount of coupons. The original certificate for which the certificate of the collecting agent is substituted shall be indorsed, preferably with a rubber stamp, by the collecting agent as follows:

Owner's certificate No. ....

....

(Name of collecting agent)

..........................., 19....
(Give date of certificate)

The counterpart of the within certificate bearing like number was attached to the coupons within mentioned for delivery to the debtor or withholding agent, by whom the coupons are payable.

For the purpose of identification the substitute certificates shall be numbered consecutively, reverting to the numeral 1 at the beginning of each calendar year, and corresponding numbers given the original certificates of ownership. The use of substitute certificates by collecting agents, banks and bankers is not permitted, however, in the case of ownership certificates presented with coupons for collection by non-resident alien individuals, partnerships or corporations.

(T. D. 2969, February 4, 1920)

Ownership certificates—alien property custodian

Article 375, regulations 45, amended

Article 375, treasury department regulations 45, is hereby amended to read as follows:

Payments made after October 6, 1917, to the alien property custodian are in the same category as payments made to or for citizens or residents of the United States. Withholding at the source is accordingly unnecessary except in the case of interest payments on corporate bonds or other obligations containing a tax-free covenant where no exemption is claimed. The alien property custodian should use form 1000 (revised) in collecting interest on bonds containing a tax-free covenant, and in all other cases should use form 1001 (revised), except that in cases in which the alien property custodian shall, under the trading with the enemy act, demand payment to himself of interest accrued upon bonds or other securities not yet reduced to his custody (even though they be registered in the name of an enemy,

ally of enemy, or his agent or trustee), the corporation paying such income to the alien property custodian is authorized to accept from the alien property custodian ownership certificates, forms 1000 (revised) and 1001 (revised), altered by the substitution (in lieu of the certificate required thereon) of a certificate that the alien property custodian is entitled to the interest entered therein with or without deduction of tax, as the case may be. No distinction is to be made between payments directly to the alien property custodian and to his depositaries and between interest on registered bonds and interest on coupon bonds. In the case of enemies or allies of enemies holding a license granted under the provisions of the trading with the enemy act, withholding is required as in the case of any non-resident alien not an enemy or ally of enemy. See article 446.

(T. D. 2970, February 4, 1920)

Income Tax

Amending article 307, final edition of regulations 45, dealing with non-resident alien individual entitled to personal exemption and credit for dependents

The final edition of regulations 45 is amended by changing article 307 to read as follows:

ART. 307. *When non-resident alien individual entitled to personal exemption.*—(*a*) The following is an incomplete list of countries which either impose no income tax or in imposing an income tax allow both a personal exemption and a credit for dependents which satisfy the similar credit requirement of the statute: Argentina; Belgium; Bolivia; Bosnia; Brazil; Bukowina; Canada; Carinthia; Carniola; China; Chile; Cuba; Czecho-Slovakia, including Bohemia, Moravia and Slovakia; Dalmatia; Denmark; Ecuador; Egypt; France; Galicia; Poritz; Gradisca; Greece; Guatemala; Herzegovina; Istria; Lower Austria; Luxemburg; Mexico; Montenegro; Morocco; Newfoundland; Nicaragua; Norway; Panama; Paraguay; Persia; Peru; Portugal; Roumania; Russia (including Poles owing allegiance to Russia); Salzburg; Santo Domingo; Serbia; Siam; Silesia; Styria; Spain; Switzerland; Trieste; Tyrol; Upper Austria; Union of South Africa; Venezuela. (*b*) The following is an incomplete list of countries which in imposing an income tax allow a personal exemption which satisfies the similar credit requirement of the statute, but do not allow a credit for dependents: Bachka; Banat of Temesvar; Croatia; Finland; India; Italy; Salvador; Slavonia; Transylvania. (*c*) The following is an incomplete list of countries which in imposing an income tax do not allow to citizens of the United States not residing in such country either a personal exemption or a credit for dependents and, therefore, fail entirely to satisfy the similar credit requirement of the statute: Australia; Costa Rica; Great Britain and Ireland; Japan; The Netherlands; New Zealand; Sweden. The former names of certain of these territories are here used for convenience, in spite of an actual or possible change in name or sovereignty. A non-resident alien individual who is a citizen or subject to any country in the first list is entitled for the purpose of the normal tax to such credit for a personal exemption and for dependents as his family status may warrant. If he is a citizen or subject of any country in the second list he is entitled to a credit for personal exemption, but to none for dependents. If he is a citizen or subject of any country in the third list he is not entitled to credit for either a personal exemption or for dependents. If he is a citizen or subject of a country which is in none of the lists, then to secure credit for either a personal exemption or for dependents he must prove to the satisfaction of the commissioner that his country does not impose an income tax or that in imposing an income tax it grants the similar credit required by the statute.

(T. D. 2971, February 4, 1920)

Exchange of Property

Method of determining gain or loss, article 1563 of regulations 45, amended

Regulations 45 are hereby amended by substituting for article 1563 as it now stands the following:

ART. 1563. Exchange of property,—Gain or loss arising from the acquisition and subsequent disposition of property is realized when as the result of a transaction between the owner and another person the property is converted into cash or into property (*a*) that is essentially different from the property disposed of, and (*b*) that has a market value. In other words, both (*a*) a change in substance and not merely in form, and (*b*) a change into the equivalent of cash, are required to complete or close a transaction from which income may be realized. By way of illustration, if a man owning ten shares of listed stock exchanges his stock certificate for a voting trust certificate, no income is realized, because the conversion is merely in form; or if he exchanges his stock for stock in a small, closely held corporation, no income is realized if the new stock has no market value, although the conversion is more than formal; but if he exchanges his stock for a Liberty bond, income may be realized, because the conversion is into independent property having a market value. "Market value" is the price at which a seller willing to sell at a fair price and a buyer willing to buy at a fair price, both having reasonable knowledge of the facts, will trade. Property received in exchange for other property has no "fair market value" for the purpose of determining gain or loss resulting from such exchange when, owing to the condition of the market, there can be no reasonable expectation that the owner of the property, though wishing to sell, and any person wishing to buy will agree upon a price at which to trade unless one or the other is under some peculiar compulsion. It does not follow that property has no "fair market value" merely because there is no price therefor established by public sales or sales in the way of ordinary business. The property received in exchange may be real estate, personal property, or a chose in action. Where the owner of a bond exercises the right, provided for in the bond, of converting the bond into stock in the obligor corporation, such transaction does not result in a realization of profit or loss, the transaction not being closed for purposes of income taxation until such stock is sold.

(T. D. 2972, February 7, 1920)

Income Tax

Amendment to article 141 of regulations 45

Article 141 of regulations 45 is hereby amended to read as follows:

ART. 141. *Losses.*—Losses sustained during the taxable year and not compensated for by insurance or otherwise are fully deductible (except by non-resident aliens) if (*a*) incurred in the taxpayer's trade or business, or (*b*) incurred in any transaction entered into for profit, or (*c*) arising from fires, storms, shipwreck, or other casualty, or from theft. They must usually be evidenced by closed and completed transactions. In the case of the sale of assets the loss will be the difference between the cost thereof, less depreciation sustained since acquisition, or the fair market value as of March 1, 1913, if acquired before that date, less depreciation since sustained, and the price at which they were disposed of. See section 202 of the statute and articles 39-46 and 1561. When the loss is claimed through the destruction of property by fire, flood, or other casualty, the amount deductible will be the difference between the fair market value of the property as of March 1, 1913, if acquired before that date, or if acquired on or after that

date, its cost, and the salvage value thereof, after deducting from such cost, or such value as of March 1, 1913, the amount, if any, which has been or should have been set aside and deducted in the current year and previous years from gross income on account of depreciation and which has not been paid out in making good the depreciation sustained. But the loss should be reduced by the amount of any insurance or other compensation received. See articles 49 and 50. A loss in the sale of an individual's residence is not deductible. Losses in illegal transactions are not deductible. Where a person gives property away, or is divested thereof by death, no realization of loss results therefrom.

(T. D. 2973, February 9, 1920)

Treasury Certificates of Indebtedness

Instructions relative to acceptance of treasury certificates of indebedness for income and profits taxes, supplementing articles 1731 and 1732, regulations 45 (revised), and superseding treasury decisions 2907 and 2918

Collectors of internal revenue are authorized and directed to receive at par United States treasury certificates of indebtedness of series T 8, dated July 15, 1919, series T 9, dated September 15, 1919, series T M 3-1920, dated December 1, 1919, and series T M 4-1920, dated February 2, 1920, all maturing March 15, 1920, in payment of income and profits taxes payable on March 15, 1920. Collectors are authorized and directed to receive at par treasury certificates of indebtedness of series T J 1920, dated December 15, 1919, maturing June 15, 1920, in payment of income and profits taxes payable on June 15, 1920; treasury certificates of indebtedness of series T 10, dated September 15, 1919, maturing September 15, 1920, in payment of income and profits taxes payable on September 15, 1920; and treasury certificates of indebtedness of series T D 1920, dated January 2, 1920, maturing December 15, 1920, in payment of income and profits taxes payable on December 15, 1920. Collectors are further authorized and directed to receive at par, in payment of income and profits taxes payable at the maturity of the certificates, respectively, treasury certificates of indebtedness of any series maturing on March 15, June 15, September 15, or December 15, 1920, respectively, and expressed to be acceptable in payment of income and profits taxes. Collectors are not authorized hereunder to receive in payment of income or profits taxes any treasury certificates of indebtedness not expressed to be acceptable in payment of income and profits taxes, or maturing on a date other than the date on which the taxes are payable. Collectors are authorized to receive treasury certificates of indebtedness which are acceptable as above provided in payment of income and profits taxes, in advance of the respective dates on which the certificates mature. Treasury certificates acceptable in payment of income and profits taxes have one or more interest coupons attached, including as to each series a coupon payable at the maturity of the certificates, but all interest coupons must in each case be detached by the taxpayer and collected in ordinary course when due. The amount, at par, of the treasury certificates of indebtedness presented by any taxpayer in payment of income and profits taxes must not exceed the amount of the taxes to be paid by him, and collectors shall in no case pay interest on the certificates or accept them for an amount other or greater than their face value.

Deposits of treasury certificates of indebtedness received in payment of income and profits taxes must be made by collectors, unless otherwise specifically instructed by the secretary of the treasury, with the federal reserve bank of the district in which the collector's head office is located, or in case such head office is located in the same city with a branch federal reserve bank, with such branch federal reserve bank. Specific instructions may be given in certain instances for the deposit of the certificates with

federal reserve banks of other districts and branch federal reserve banks. The term "federal reserve bank," where it appears herein, unless otherwise indicated by the context, includes branch federal reserve banks. Treasury certificates accepted by the collector prior to the dates when the certificates respectively mature should be forwarded by the collector to the federal reserve bank to be held for account of the collector until the date of maturity and for deposit on such date.

Collectors of internal revenue are not authorized, unless otherwise notified by the secretary of the treasury, to receive in payment of income or profits taxes interim receipts issued by federal reserve banks in lieu of definite certificates of the series herein described.

Certificates of indebtedness should in all cases be stamped as follows by the collector, and when so stamped forwarded to the federal reserve bank by registered mail uninsured:

......................., 192....

This certificate has been accepted in payment of income and profits taxes and will not be redeemed by the United States except for credit of the undersigned.

....

Collector of internal revenue.

For the .... *district of* ....

Collectors should make in tabular form a schedule in duplicate of the certificates of indebtedness to be forwarded to the federal reserve bank, showing the serial number of each certificate, the date of issue and maturity and face value. Certificates of indebtedness accepted prior to the date of maturity must be scheduled separately. At the bottom of each schedule there should be written or stamped "Income and profits taxes $........," which amount must agree with the total shown on the schedule. One copy of this schedule must accompany certificates sent to the federal reserve bank and the other be retained by the collector. The income and profits tax deposits resulting from the deposits of such certificates must in all cases be shown on the face of the certificate of deposit (national bank form 15) separate and distinct from the item of miscellaneous internal revenue collections (formerly called ordinary), but it is not necessary to give the separation into corporation income, individual income and profits taxes.

Until certificates of deposit are received from the federal reserve banks, the amounts represented by the certificates of indebtdness forwarded must be carried by collectors as cash on hand, and not credited as collections, as the dates of certificates of deposit determine the dates of collections.

For the purpose of saving taxpayers the expense of transmitting such certificates as are held in federal reserve cities or federal reserve branch bank cities to the office of the collector in whose district the taxes are payable, taxpayers desiring to pay income and profits taxes by treasury certificates of indebtedness acceptable in payment of such taxes should communicate with the collector of the district in which the taxes are payable, and request from him authority to deposit such certificates with the federal reserve bank or branch in the city in which the certificates are held. Collectors are authorized to permit deposits of treasury certificates of indebtedness in any federal reserve bank or branch with the distinct understanding that the federal reserve bank or branch is to issue a certificate of deposit in the collector's name covering the amount of the certificates of indebtedness at par, and to state on the face of the certificate of deposit that the amount represented thereby is in payment of income and profits taxes. The federal reserve bank or branch should forward the original certificate

of deposit to the treasurer of the United States, with its daily transcript, and transmit to the collector the duplicate and triplicate, accompanied by a statement giving the name of the taxpayer for whom the payment is made, in order that the collector may make the necessary record and forward the duplicate to the office of the commissioner of internal revenue.

This treasury decision amends and supplements the provisions of articles 1731 and 1732 of regulations 45 (revised), and supersedes treasury decisions 2907 and 2918.

(T. D. 2977, February 11, 1920)

Revenue act of 1918

Amendment of article 251 of regulations 45, as amended by T. D. 2966

Article 251 of regulations 45 is amended to read as follows:

ART. 251. *Charitable contributions.*—Contributions or gifts within the taxable year are deductible to an aggregate amount not in excess of 15% of the taxpayer's net income, including such payments, if made (*a*), to corporations or associations of the kind exempted from tax by subdivision (6) of section 231 of the statute, or (*b*) to the special fund for vocational rehabilitation under the vocational rehabilitation act of June 27, 1918. For a discussion of what corporations and associations are included within (*a*) see article 517. A gift to a common agency (as a war chest) for several such corporations or associations is treated like a gift directly to them. In connection with claims for this deduction there shall be stated on returns of income the name and address of each organization to which a gift was made, and the approximate date and the amount of the gift in each case. Where the gift is other than money, the basis for calculation of the amount of the gift shall be the cost of the property or its fair market value as of March 1, 1913, if acquired prior thereto less any depreciation sustained. A gift of real estate to a city to be maintained perpetually as a public park is not an allowable deduction. The proportionate share of contributions made by a partnership to corporations or associations of the kind included in (*a*) above and to the special fund for vocational rehabilitation specified in (*b*) may be claimed as deductions in the personal returns of the partners to an amount which, added to the amount of such contributions made by the partner individually, is not in excess of 15% of the partner's net income, computed without the benefit of the deduction for such contributions. However, the contributions made by the partnership shall not be deducted from its gross income in ascertaining the amount of its net income to be reported on form 1065 (revised). See article 321.

(T. D. 2979, February 11, 1920)

Capital Stock Tax

Amendment of article 41 and article 102, regulations 50, relative to the method of computing the fair average value of the capital stock of insurance companies for the purpose of the capital stock tax imposed by section 1000, revenue act of 1918.

Subdivision (*b*), section 1000, title X of the revenue act of 1918, provides, as to the special excise tax imposed by that section:

In computing the tax in the case of insurance companies, such deposits and reserve funds as they are required by law or contract to maintain or hold for the protection or payment to or apportionment among policyholders shall not be included.

In order to give effect to this provision, article 41 and article 102 of regulations 50, relating to the capital stock tax under the revenue act of 1918, are hereby amended to read as follows:

ART. 41. *Stock insurance companies.*—Insurance companies having a

capital stock, as distinguished from mutual insurance companies, are taxable upon the same basis as other corporations, whether domestic or foreign, except that in computing the tax, such reserve funds (which include deposits) as they are required by law or contract to maintain or hold for the protection of or payment to or apportionment among policyholders are not to be included. In the case of such companies, the tax will be computed by deducting from the total book value of the assets the amount of the actual liabilities and legal reserves, unless the facts in the case indicate that the book value of the assets is substantially different from their fair market value, in which case it is permissible to make proper adjustment. In a case requiring such adjustment, the market value of the shares of stock as shown by exhibit B or the net earnings of the company as shown by exhibit C shall be considered, as well as the market value of the assets.

ART. 102. *Fair value of capital stock.*—The fair average value of capital stock for the purpose of determining the amount of the capital stock tax must not be confused with the market value of the shares of stock where it may be necessary to determine such value under other provisions of the revenue laws. The fair average value of capital stock, the statutory basis of the tax, is not necessarily the book value, or a value based on prices realized in current sales of shares of stock, or even the earning value, although it is often more directly dependent upon the last. It should usually be capable of appraisal by officers of the corporation having special knowledge of the affairs of the corporation and general knowledge of the line of business in which it is engaged. Provision is accordingly made in exhibit C of form 707 (revised) for the tentative determination of the fair value of the capital stock by capitalizing the net earnings of the corporation on a percentage basis fixed by its officers as fairly representing the conditions obtaining in the trade and in the locality. If possible, illustrations drawn from similar corporations should be cited in support of the percentage adopted. But such fair value, except in the case of insurance companies, must not be set at a sum less than the reconstructed book value shown by exhibit A, unless the corporation is materially affected by extraordinary conditions which support a lower figure, which, however, under any conditions could only be slightly less than such reconstructed book value. In any such cases a full explanation must accompany the return. The commissioner will estimate the fair value of the capital stock in cases regarded as involving any understatement or undervaluation. For the method of computing the fair average value of capital stock in the case of insurance companies see article 41, as amended.

Students' Department

EDITED BY SEYMOUR WALTON

(ASSISTED BY H. A. FINNEY)

INSTITUTE EXAMINATIONS, NOVEMBER, 1919

In regard to the following attempt to present the correct solutions to the questions asked in the examination held by the American Institute of Accountants in November, 1919, the reader is cautioned against accepting the solutions as official. They have not been seen by the examiners—still less endorsed by them.

THEORY AND PRACTICE, PART 2

Answer Questions 1 and 2 and Five Others

Question 1:

A and B trading in partnership decide to admit C as from January 1, 1919.

They agree with C as follows:

C is unable to contribute any tangible assets as his capital investment, but agrees to allow his share of the profits to be credited to his capital account until he shall have one-fifth interest. C is to share profits and losses to the extent of one-fifth.

C is to receive a salary of $3,000 per annum, payable monthly, in addition to his share of profits.

Balance-sheet of A and B at December 31, 1918, is as follows:

Assets		*Liabilities*		
Cash	$1,500	Accounts payable		$8,000
Accounts receivable	10,000	Capital accounts		
Merchandise	7,500	A	$10,000	
Furniture and fixtures	1,500	B	5,000	
Good will	2,500			15,000
	$23,000			$23,000

During the six months ended June 30, 1919, the business has sustained unusual losses, and it is decided to dissolve the partnership.

The balance-sheet at that date is as follows:

Assets		*Liabilities*		
Cash	$500	Accounts payable		$12,500
Accounts receivable	12,500	Capital accounts		
Merchandise	5,000	A	$10,000	
Furniture and fixtures	1,500	B	5,000	
Good will	2,500			15,000
Deficit				$27,500
Being loss on trading for six months	5,500			
	$27,500			

Accounts receivable were sold for $9,000, the buyer assuming all responsibility for collection and loss, if any.

Merchandise realized $6,500 and furniture and fixtures $500.

You are asked to make an examination of the accounts from January 1st and to prepare statements showing the realization of assets, the adjustment of the pertnership accounts and the distribution of the funds.

In your examination you find that C has not drawn his salary for four months, and that B has advanced to the partnership $2,500 by way of a temporary loan. These liabilities you find are included in the sum of $12,500, shown as accounts payable.

C is ascertained to be worthless.

Answer to Question 1:

REALIZATION STATEMENT

	Book value	*Loss or gain*	*Cash realized*
Cash (already realized)......	$500.00	....	$500.00
Accounts receivable	12,500.00	$3,500.00	9,000.00
Furniture and fixtures........	1,500.00	1,000.00	500.00
Good will	2,500.00	2,500.00	......
		$7,000.00	
Merchandise	5,000.00	1,500.00*	6,500.00
Net result	$22,000.00	$5,500.00	$16,500.00

Loss on trading per balance-sheet..............................	$5,500.00
Loss on liquidation	5,500.00
Total loss to be charged to partners.....................	$11,000.00

As nothing is said as to the ratio in which A and B share their four-fifths of profits and losses, it must be assumed that they share them equally, two-fifths to each.

C's unpaid salary would be paid first, after all the creditors had been satisfied; then B's loan; and finally any balances remaining at the credit of any of the partners, *provided* that, if the capital account of either B or C has a debit balance when the losses are charged off, the credit for loan or salary must be offset against it.

If C has a final debit balance, it is a loss to A and B and must be charged off equally between them.

The following shows the adjustment of the partners' accounts and the distribution of the funds:

LIQUIDATION STATEMENT

	Total	*A cap.*	*B cap.*	*B loan*	*C salary*	*Creditors*
Balances before dividing losses.....	$27,500	$10,000	$5,000	$2,500	$1,000	$9,000
Total losses.........	11,000	4,400	4,400	.....	2,200	.....
	$16,500	$5,600	$600	$2,500	$1,200 Dr.	$9,000
C's account charged off	.....	600	600	.....	1,200 Cr.	
Final balances.......	16,500	5,000	0	2,500	0	9,000
Cash payments.......	16,500	5,000	.....	2,500	.....	9,000

Question 2:

The Pan-American Chemical Company, a New York corporation, owns a plant in Chile where nitrate of soda is manufactured and shipped to the United States. The accounts in Chile are kept in the local currency (pesos), and the following is a summary of the transactions during 1918:

1/1/18 New York remitted by telegraphic transfer $30,000, which realized 120,000 pesos.
4/1/18 New York remitted $30,000, realized 150,000 pesos.
7/1/18 New York remitted $30,000, realized 180,000 pesos.
10/1/18 New York remitted $30,000, realized 150,000 pesos.

There was paid in wages for plant construction 120,000 pesos.

There was paid for operating 300,000 pesos.

At December 31, 1918, the unpaid payroll for operating labor amounted to 60,000 pesos, and one-sixth of the nitrate produced during the year remained in inventory.

You may assume that the production, construction and shipments were spread evenly over the whole twelve months, and that the only element entering into costs of production and construction in Chile was labor.

The average quoted exchange rates in Chile and New York were as follows:

1/1/18 to 6/30/18....................................3 pesos = $1.00
7/1/18 to 12/31/18....................................5 pesos = 1.00

At the close of business 12/31/18 the rate suddenly dropped to 6 pesos = $1.00.

You are required to show the accounts affected in both pesos and American dollars and to prepare a trial balance as at 12/31/18, for the purpose of incorporating the Chilean accounts on the New York books.

Answer to Question 2:

Fixed assets are not affected by variations in exchange after payment is made for them; they continue to be carried at what they cost originally, as far as exchange goes. The value of floating assets on hand must be adjusted in accordance with the rate of exchange prevalent when a statement is prepared, and the same is true of floating liabilities.

In determining the cost of both construction and operation, the principle of "first in—first out" is adopted—that is, the items paid for out of the first remittance are charged at the rate of that remittance until it is exhausted; then the second remittance is taken up, and so on.

Cash

	$	Pesos		$	Pesos
1/1/18 From H. O.	30,000	120,000	3/31/18 Operations	22,500	90,000
			Construction	7,500	30,000
	30,000	120,000		30,000	120,000
4/1/18 From H. O.	30,000	150,000	6/30/18 Operations	18,000	90,000
			Construction	6,000	30,000
			Balance	6,000	30,000
	30,000	150,000		30,000	150,000

Cash

		$	Pesos			$	Pesos
7/1/18	Balance	6,000	30,000	9/30/18	Operations ...	4,500	22,500
7/1/18	From H. O..	30,000	180,000		Construction..	1,500	7,500
					Operations ...	11,250	67,500
					Construction..	3,750	22,500
					Balance	15,000	90,000
		36,000	210,000			36,000	210,000
10/1/18	Balance	15,000	90,000	12/31/18	Operations ...	5,000	30,000
10/1/18	From H. O..	30,000	150,000		Construction..	5,000	30,000
					Balance	35,000	180,000
		45,000	240,000			45,000	240,000
12/31/18	Balance	35,000	180,000	12/31/18	Exchange to adjust	5,000	
					Balance	30,000	180,000
		35,000	180,000			35,000	180,000
12/31/18	Balance	30,000	180,000				

If there had been no fall in exchange the balance on hand in pesos would have been worth $35,000. Owing to the variations in exchange the balance is worth only $30,000, and an entry must be made in the dollar column only, to adjust the difference by a charge of $5,000 to exchange account. The same explanation covers the two other exchange entries.

Wages Payable

		$	Pesos
12/31/18	Operations..	10,000	60,000

Operations

		$	Pesos			$	Pesos
3/31/18	Cash	22,500	90,000	6/30/18	Shipments ..	50,000	150,000
6/30/18	Cash	18,000	90,000	12/31/18	Shipments ..	30,000	150,000
9/30/18	Cash	4,500	22,500	12/31/18	Balance	10,000	60,000
9/30/18	Cash	11,250	67,500				
12/31/18	Cash	5,000	30,000				
	Wages payable	10,000	60,000				
	Exchange to adjust ...	18,750					
		90,000	360,000			90,000	360,000
12/31/18	Balance ...	10,000	60,000				

This balance is the inventory of nitrate on hand.

Construction

	$	Pesos		$	Pesos
3/31/18 Cash	7,500	30,000	12/31/18 Balance	23,750	120,000
6/30/18 Cash	6,000	30,000			
9/30/18 Cash	1,500	7,500			
9/30/18 Cash	3,750	22,500			
12/31/18 Cash	5,000	30,000			
	23,750	120,000		23,750	120,000
12/31/18 Balance ...	23,750	120,000			

Home Office

6/30/18 Shipments..	50,000	150,000	1/ 1/18 Cash	30,000	120,000
12/31/18 Shipments..	30,000	150,000	4/ 1/18 Cash	30,000	150,000
Balance ...	50,000	300,000	7/ 1/18 Cash	30,000	180,000
			10/ 1/18 Cash	30,000	150,000
			12/31/18 Exchange to adjust	10,000	
	130,000	600,000		130,000	600,000
			12/31/18 Balance	50,000	300,000

Exchange

12/31/18 Home office.	10,000	12/31/18 Operations...	18,750
Cash	5,000		
Balance ...	3,750		
	18,750		18,750

TRIAL BALANCE

December 31, 1918

	Dollars		Pesos	
Cash	30,000	.....	180,000	.....
Wages payable................	.....	10,000	.....	60,000
Inventory, nitrate	10,000	.....	60,000	.....
Construction	23,750	.....	120,000	.....
Home office	.....	50,000	.....	300,000
Exchange	.....	3,750	.....	.....
	63,750	63,750	360,000	360,000

On the New York books all the items would be reversed, being credit where the above are debit and debit where these are credit. The dollars would be in the last, or significant, columns, and the pesos in the first, or explanatory, columns, and the home office account would be the Chile account.

Question 3:

If in consolidating the accounts of a holding company and its subsidiary companies, you find that in the case of one of the subsidiary companies the holding company owns only 60% of its voting stock, state briefly how you would treat this subsidiary company's accounts in the consolidated balance-sheet and why your proposed treatment reflects the true financial position of the combined companies more clearly than other methods with which you may be familiar.

Answer to Question 3:

When a holding company does not own substantially all the stock of a subsidiary company, it is usually better to carry the stock of the subsidiary as "investment in subsidiary companies controlled."

The object of a consolidated statement is to show the true condition of all the companies as one enterprise, by combining the assets and liabilities, eliminating those inter-company items which are at the same time assets in one company and liabilities in another company of the combination.

When there are minority stockholders of a subsidiary company, they have an interest in the assets and share in the liabilities of their company to a degree proportionate to the amount of stock they hold. The consolidation is concerned in reality with only its own share of these assets and liabilities. However, in the ordinary form of a consolidated statement, the consolidation is represented as owning all the admitted assets and as owing all the admitted liabilities, and in addition as being indebted to the minority stockholders. This plan unduly swells both the assets and the outside liabilities, for the minority stockholders are outsiders to the combination. When the ownership of the stock is almost complete, the proportion due to the minority stockholders is so small that this inflation of debits and credits may be ignored, especially when the holding company stands ready at any time to take up the minority stock at book value. But when the minority interest is large this overstatement becomes more or less misleading.

In the case in question the consolidated balance-sheet should carry the 60% stock at its book value as "investment in subsidiary company controlled," and should also show separately any account due to or from that company.

Question 4:

From the following comparative balance-sheets of the ABC Company at December 31, 1917, and December 31, 1918, prepare a short statement showing the funds realized during the year and the disposition made thereof:

Assets:	*Dec. 31, 1917*	*Dec. 31, 1918*
Capital assets	$600,000.00	$900,000.00
(Replacement values as shown by appraisal were used at December 31, 1918.)		
Inventories	1,000,000.00	1,160,000.00
Accounts receivable	850,000.00	800,000.00
Cash	200,000.00	550,000.00
Deferred charges	20,000.00	10,000.00
	$2,670,000.00	$3,420,000.00

Liabilities:	*Dec. 31, 1917*	*Dec. 31, 1918*
Capital stock	$1,000,000.00	$1,000,000.00
Bonds (issued at par)	....	500,000.00
Capital surplus, representing excess of sound replacement value of appraisal at December 31, 1918, over the book value of capital assets at that date	....	150,000.00
Bank loans	750,000.00	400,000.00
Accounts payable	500,000.00	600,000.00
Reserve for depreciation and replacement... (The reserve at December 31, 1918, represents the difference between the replacement and sound value of the appraisal at December 31, 1918.)	100,000.00	200,000.00
Surplus	320,000.00	570,000.00
	$2,670,000.00	$3,420,000.00

NOTE.—The profits for the year were $450,000 and dividends were paid during the year amounting to $200,000. The sum of $100,000 was charged to operation for depreciation during the year, and $50,000 was charged against the reserve for replacements.

Answer to Question 4:

THE ABC COMPANY *Exhibit A*

COMPARATIVE BALANCE-SHEETS

Assets	*Dec. 31, 1917*	*Dec. 31, 1918*	*Decrease*	*Increase*
Capital assets	$600,000.00	$900,000.00	....	$300,000.00
Inventories	1,000,000.00	1,160,000.00	....	160,000.00
Accounts receivable	850,000.00	800,000.00	50,000.00	....
Cash	200,000.00	550,000.00	....	350,000.00
Deferred charges	20,000.00	10,000.00	10,000.00	....
	$2,670,000.00	$3,420,000.00	$60,000.00	$810,000.00
Net increase in assets			750,000.00	....
			$810,000.00	$810,000.00
Capital, Liabilities and Reserves				
Capital stock	$1,000,000.00	$1,000,000.00	....	....
Bonds	....	500,000.00	....	500,000.00
Capital surplus	....	150,000.00	....	150,000.00
Bank loans	750,000.00	400,000.00	350,000.00	....
Accounts payable	500,000.00	600,000.00	....	100,000.00
Reserve for depreciation and replacements	100,000.00	200,000.00	....	100,000.00
Surplus	320,000.00	570,000.00	....	250,000.00
	$2,670,000.00	$3,420,000.00	$350,000.00	$1,100,000.00
Net increase in capital, liabilities and reserves.			750,000.00	....
			$1,100,000.00	$1,100,000.00

Although the capital assets have increased $300,000 during the year, the statement of application of funds should show only the increase caused by purchases during the year and not the increase caused by the book entry adjusting the assets to the appraisal value.

This adjusting entry included a credit to capital surplus.....			$150,000.00
and a credit to the reserve for depreciation, which may be computed thus:			
Balance at Dec. 31, 1918 (per problem)..........		$200,000.00	
Consisting of balance at Dec. 31, 1917...........	$100,000.00		
Less debit for replacements during 1918............	50,000.00		
Balance	$50,000.00		
Add depreciation charged to operations at Dec. 31, 1918	100,000.00		
Balance before appraisal adjustment entry........		150,000.00	
Appraisal adjustment credit to reserve			50,000.00
Total credits in appraisal adjustment entry..............			$200,000.00
The debit to the capital assets accounts must therefore have been $200,000. Now, since the balance after making this entry was..			$900,000.00
and since the debit for the appraisal adjustment was.....			200,000.00
The balance before the adjustment must have been...........			$700,000.00
Consisting of balance at Dec. 31, 1917.......		$600,000.00	
Less replaced assets closed out to reserve.		50,000.00	
Net amount			550,000.00
Purchases during 1918......................			$150,000.00

THE ABC COMPANY *Exhibit B*

STATEMENT OF APPLICATION OF FUNDS

Year Ended December 31, 1918

Funds provided:		
By operating profits:		
Net profit	$450,000.00	
Add back depreciation charged to operations	100,000.00	
		$550,000.00
By sale of bonds		500,000.00
Total funds provided		$1,050,000.00

Which were applied as follows:

To payment of dividends	$200,000.00
To purchase of capital assets	150,000.00
To net increase in working capital and deferred charges (exhibit C)	700,000.00
Total (as above)	$1,050,000.00

Schedule of Working Capital and Deferred Charges

Exhibit C

Current assets	*Dec. 31, 1917*	*Dec. 31, 1918*	*Decrease work. cap.*	*Increase work. cap.*
Inventories	$1,000,000.00	$1,160,000.00		160,000.00
Accounts receivable	850,000.00	800,000.00	$50,000.00	
Cash	200,000.00	550,000.00		350,000.00
				350,000.00
Total current assets	$2,050,000.00	$2,510,000.00		
Current liabilities				
Bank loans	$750,000.00	$400,000.00		350,000.00
Accounts payable	500,000.00	600,000.00	100,000.00	
Total current liabilities	$1,250,000.00	$1,000,000.00		
Working capital	$800,000.00	$1,510,000.00		
Increase in working capital			710,000.00	
			$860,000.00	$860,000.00
Deferred charges	$20,000.00	$10,000.00	$10,000.00	

Summary

Increase in working capital	$710,000.00
Less decrease in defer'd charges	10,000.00
Net increase	$700,000.00

Question 5:

Is there any distinction between the figure shown as "invested capital" in a corporation's excess profits tax return and the capital value upon which capital stock tax is calculated?

Answer to Question 5:

There is a very decided distinction between the figures shown as invested capital in the excess profits tax return of a corporation and the capital value upon which the capital stock tax is calculated. In fact, these figures have nothing whatever in common. The treasury department states: "As

the invested capital is based upon the actual investment of the stockholders in the corporation, irrespective of the present value of its assets, and in the case of the capital stock tax the fair value looks to the present value of the corporation's assets, irrespective of the amount of the investment of the stockholders therein, the amount determined as the fair value of the capital stock for the purpose of the capital stock tax can have no bearing upon the determination of invested capital." Both these terms, being used in taxing statutes, must be interpreted in the way in which they are employed by the legislative body and subject to any express limitations, qualifications or definitions enacted by the legislative body. The computation of the capital stock tax is based upon "the fair average value of its capital stock for the preceding year ending June 30." Since the statute does not purport to define "fair average value" these words must be defined with reference to their common meaning, and elements of fair value must of course be considered, with reference to the stated time. Cost is not always the same as value but is evidence of value. Value implies not only the amount of money equivalent in ordinary circumstances, but also the possibility of realizing a money equivalent in the future. Thus present value must be increased or reduced in view of the expectation of a future value greater or smaller than the amount which could be realized at present. Since the stock represents the ultimate ownership of all the property of the corporation, the value of the stock will depend upon the present value of all the assets of the corporation. Since the stock represents the right to receive the profits earned by the corporation, the value of the stock will reflect the possibility of profits in the business of the corporation. Therefore, the fair average value of the stock must be estimated after a consideration of the present fair value of the assets of the corporation, which may be more or less than cost, and must include all assets whether carried on the books or not. It must also reflect a consideration of the price of the stock fixed by buyers and sellers in transfers actually made during the time in question and of the income-producing possibilities of the stock, as indicated by earnings of the company in the past and the probability of earnings in the future. All these factors must of course be considered in relation to the average for the preceding year ending June 30th. None of these questions of value is involved in the question of invested capital.

On the other hand, the statute attempts to define the invested capital by specifying exactly what shall be included and what shall be excluded. Therefore the common meaning of the words "invested capital" is not at all material, but general principles and ordinary standards may be employed only to interpret the words used in the statutory limitations and to explain deficiencies, omissions for ambiguities in the statutory provisions. Not to refer to the limitations specifically, it may be stated that the statute provides in general that the invested capital consists of money or money-equivalent actually invested in the business of the corporation by the stockholders, together with amounts earned in the business and distributable to the stockholders but allowed by them to remain employed in the business. This general statement is subject to limitations with respect to the rela-

tive amount of certain kinds of money-equivalent (intangible property) paid in by the stockholders, and subject further to the restrictions with respect to the employment of the invested capital during the taxable year in certain assets described as inadmissible. It will be seen that this definition refers to the acquisition of capital and has no reference to present values of any property, which is the characteristic feature of the value used for the capital stock tax.

The invested capital involves the value of property only as to property invested in the business by the stockholders instead of money, and consequently the money value at the time of the investment determines the extent to which such property should represent invested capital. It is, however, possible that the determination of accumulated profits may involve property valuation. Here the general principles apply, to the effect that profits are not earned unless adequate provision has been made for the disappearing value of property which is being exhausted in the business, and that a mere increase in the value of property is not a profit until it has been realized. The fact that intangible property may be included in the invested capital only to an amount arbitrarily fixed by the statute with reference to the par value of outstanding capital stock may result in a great discrepancy between the invested capital and the value of the property invested in the business, even as of the time of the investment. It is obvious that the difference between the time considered in fixing the invested capital and the specified period for fixing the value of the shares of stock is apt to result in discrepancies even more substantial. (Answered by Kixmiller & Baar, counsel for Commerce Clearing House.)

Question 6:

In setting up the balance-sheet of a corporation which has an issue of 100,000 shares of stock of no par value, but a stated value of $5 a share, and an excess of assets over liabilities of $1,500,000, how would you show the capital on the balance-sheet?

Answer to Question 6:

"Stated value" means the value at which the stock was issued. Since this value is $5 a share the stated capital is $500,000. The net worth being $1,500,000 there must be $1,000,000 of earned profits left in the business—in other words, there is a surplus of that amount. This surplus is additional capital and could be transferred to the credit of capital stock. The objection to doing this by an actual entry is that it would then become permanent fixed capital, and the fact that it is earned instead of being paid in would be overlooked. It is therefore better to show the capital as two items, thus:

Capital:		
Capital stock (no par value), 100,000 shares issued at	$500,000.00	
Surplus accumulated from profits..........	1,000,000.00	
Total capital.........................		$1,500,000.00

Question 7:

State how you would show on the balance-sheet, if at all, consigned goods held for account of a principal.

Answer to Question 7:

As a consignee has no title to the goods consigned to him, he cannot include them among his assets, and as he does not owe anything to the consignor until the goods are sold, there is no item to be included in his liabilities. Therefore there is no reason for the appearance of unsold consignments on the balance-sheet in any way.

If advances have been made or expenses paid on account of any consignments, the amount would appear as an asset in the balance-sheet under the title "advances on consignments."

Question 8:

In which section of the balance-sheet and in what order would you show the following items: wages, accounts payable, taxes, notes payable, interest accrued payable?

Answer to Question 8:

It is assumed that wages and taxes are both accrued accounts payable, not yet due.

All the items are current liabilities and would appear on the balance-sheet as follows:

Current liabilities:		
Notes payable	xxx	
Accounts payable	xxx	
Accrued taxes	xxx	
Accrued interest	xxx	
Accrued wages	xxx	xxx

Question 9:

Would you advise showing profits for prospectus purposes before or after deducting war profits and income taxes? State your reasons briefly.

Answer to Question 9:

Before deducting the taxes. The taxes do not affect the profits of the business as an operating enterprise. The theory is that a business makes certain profits from its normal operations and then shares those profits with the government in return for the benefits conferred by the government. Real estate and personal property taxes are payable whether a concern does or does not make profits, but war profits and income taxes are payable only in case there are profits out of which they can be paid. A prospective investor knows that if the taxes are heavy it must be that the profits are correspondingly large, and that he will get his share in any event.

Bonus to Salesmen

Editor, Students' Department:

Sir: Would you kindly favor me with your opinion as to the solution of the following problem given in the June, 1919, C. P. A. examination (New York) in practical accounting?

"The president of a corporation engaged four salesmen on a salary and profit-sharing basis. To one he gave 40% of the profits, to the other three 20% each. The profits of the corporation were $102,608.18. Show proportion of profits payable to each salesman."

Inasmuch as the profit-sharing basis is not given in the problem can you point out anything further that can be submitted in answer, but the simple proportions of 40-20-20-20 of $102,608.18?

Your reply will be very much appreciated.

Very truly yours,
H. K.

Contracts with employees giving them a certain percentage of the profits are subject to either of two interpretations. If they are considered division of profits they are calculated on the net profits as they appear before the bonus is deducted. If they are to be treated as salary, they must be based on the net profits after they have been deducted.

In the case in point they could scarcely have been intended to be part of the disposition of profits, since they amount to 100%, so that the four salesmen would receive all the profits, however large, and the stockholders would get nothing. On this basis, also, if there had been a fifth salesman included, the profits divided would be greater than those earned.

If considered salaries the profits as shown would be the actual net profits plus 100% to be given as bonus salaries. That is, $102,608.18 would be 200% of the net profits. Then the net profits would be 100%, or

		$51,304.09
Of this the first salesman would get 40%....	$20,521.64	
The second would get 20%..................	10,260.82	
The third would get 20%...................	10,260.82	
The fourth would get 20%..................	10,260.81	
	$51,304.09	
and there would be left net profits of........	51,304.09	
	$102,608.18	

Contracts of this kind should always specify exactly how they are to be construed, whether as division of profits or as expense in the form of additional salaries.

Another Bonus Case

Editor, Students' Department:

Sir: May I presume on your kindness to ask you to let me know what is the correct way to handle income and excess profit tax payments in a case like the following, at the same time giving the reasons for so treating the charge?

A corporation makes a contract with an employee to pay him a salary of, say, $100.00 a month, plus 5% of the net profits up to $8,500, plus 50% of the net profits in excess of $8,500.00.

The income and profits tax, we will say, is $1,800.00 and the net profit (income tax $1,800.00 being first deducted) is $12,000.00 for the year 1918.

Is that employee's bonus computed on $12,000 or on $13,800?

As the auditor of this company I was called upon to determine his bonus, and I computed it on $12,000.00, that is 5% of $8,500.00.	$425.00
Plus 50% of $3,500	1,750.00
Total	$2,175.00

He claims that the profits are $13,800.00, and he is suing the company for a settlement on that basis. He is suing on the opinion of a C. P. A., who claims that income and excess profit taxes are not deductible from profits, or, what amounts to the same thing, do not affect profits.

As there can be two honest opinions on the subject totally at variance and by members of the same association, the American Institute of Accountants, I would appreciate it very much to have your official opinion on this point.

I find at least six New Orleans members of your association who think as I do.

Thanking you in advance for your reply, I beg to remain,

Yours respectfully,
R. J. D.

Your letter states a problem that cannot be solved without a knowledge of the intentions of the parties when they made the contract.

The question hinges on the point of what the additional remuneration to the employee was considered to be. It might have been a disposition of profits, as you have treated it, or it might have been a salary based on the success of the year's business.

Your letter says "a salary of $100 a month plus 5%, etc.," which distinctly treats both the bonuses as part of the salary. If this were so, the total amount paid the employee would have been an expense of operation, and as such would have reduced the profits and therefore the income tax. This is the logical interpretation of the contract, as an employee, as such, has no claim on the net profits but may have a salary that is measured by the profits that he has helped to make. If this is the case, his bonus must be deducted before the tax is found, and at the same time the tax must first be deducted before his bonus is fixed. How that is done was shown in this department in the May, 1919, issue.

As it seems to have been agreed that the bonus is a disposition of profits, the only question to be answered is whether or not the tax is an expense to be deducted before the bonus is calculated. In my opinion there is no doubt about it. If it is not an expense it must be an asset. An expenditure of money must be one or the other.

Again, if the tax is not an expense, the net profits of the year would be $13,800. Suppose that there were no question of a bonus or any further expense, and that the surplus had an old balance of $1,200, making the new balance $15,000? Does any one claim that the company could declare a dividend of $15,000? But if provision for the tax of $1,800 must be made before the profits are divided among the stockholders, how can it be ignored before the profits are divided with the employee? It would be interesting to know how the experts for the employee will answer that question.

Viewing the bonus as a disposition of profits, I am of the opinion that your treatment of the case was correct.

Book Reviews

INCOME TAX PROCEDURE, 1920; EXCESS PROFITS TAX PROCEDURE, 1920 (2 vols.), by ROBERT H. MONTGOMERY. *The Ronald Press Company,* New York.

When this perennial publication, *Income Tax Procedure,* is examined one must first of all admire the splendid organization of material and effort during the year which makes possible its prompt issue. For popular use and wide appeal the book could scarcely be improved. In it there is something for the novice, something for the expert, something for the average professional man who is neither the one nor the other.

Without wishing to impose too much upon the author, it is felt that he could perform a still further service to our profession by preparing for next January, in addition to his regular issue, a tax manual designed solely for the expert and the near-expert. Such persons are interested chiefly in what the author has to say about the law and the practice under it. For them it would not be necessary to print the law, the regulations, reported decisions and copies of the forms. While it is convenient to have these matters under the same cover with the author's comments, the space required could be much more profitably devoted to comments alone. Possibly the publishers could arrange to furnish with each volume (on a cost-plus basis) copies of the official publications. If that practice were adopted, it would be necessary to quote exactly only when the author's comments turned upon precise terminology.

The most notable departures from the 1919 issue are the printing of a separate volume for the excess profits tax procedure and the inclusion of chapters on the New York state income tax (on individuals) and the New York state franchise tax (on corporations). Among minor improvements may be mentioned a simplified table of contents and section indexes to the current laws. The principal introductory chapters are retained, and are as helpful as heretofore in furnishing the necessary perspective through which to view the complex details of the present law and the modifications of preceding ones.

In view of the excellences of the book, it may perhaps be ungracious to ask, like Oliver Twist, for more, but would it not be useful to insert in the next issue an outline of procedure to be followed in preparing returns? Such a schedule could cover in the first place a detailed list of facts to be ascertained both in cases where previous returns had not been prepared by the present accountants and in cases of continuing engagements. An outline of this sort calling specifically for analyses of accounts in accordance with the information required on the returns would be of great suggestive value, and would assist materially in the preparation of reconcilement statements such as that proposed on page 118 of the excess profits volume.

Among the timely topics covered are the comparison of the New York

state laws with the federal law and the discussion of amortization of plant used for war purposes. In lighter vein, there is the query whether the value of stolen liquor can properly be deducted, and whether, after all, there can be a market price for contraband property. It is still necessary for the author to complain of over-centralization in the administration of the law—a condition which is likely to persist until republics cease to be ungrateful and become willing to meet commercial competition in the matter of salaries. In the discussions of taxation of capital gains, of the expedient known as the "closed transaction" and of the income from stock dividends there are sound economics and sound law. The author reaches a high moral plane in commenting on the duty of civilians to report as taxable income the money value of perquisites, such as the personal use of automobile, railroad passes and the like.

The general plan of the 1920 book is similar to that of preceding issues. There are appendixes containing illustrative returns, copies of forms and complete copies of the laws. The 52-page double-column index of the income tax book and a similar 27-page index of the excess profits book are as complete as could be desired. Much practical advice throughout the volumes will assist in properly resolving reasonable doubts in favor of the taxpayer, but no one will be aided by it in evading taxation.

One of the helpful features is the author's frankness in disagreeing with certain regulations. For instance, when one hesitates to be bound by article 857 because it seems unsupported by the law, it is a moral support, at least, to find the author branding the article as erroneous. The discussion of the troublesome sections 325 and 326 is much more enlightening in the 1920 edition than in that for 1919. It is difficult to see how the text on page 158 of the excess profits book could be made clearer. The formula for ascertaining invested capital is substantially the same as in the 1919 edition.

One doesn't need to agree with the author in all points in order to put the book to practical use. Matters of theory, such as the proper way to record treasury stock, matters of law like the seeming discrimination by the treasury against fiscal year corporations and matters of economics in the levying of extra taxes on corporate forms of organization, are subject to reasonable difference of opinion. Many readers will note minor points which could perhaps have been more adequately covered. For instance, why not add an illustration in the case of the payment by a vendee, to a vendor, of taxes on the vendor's profits from the sale? The calculation involved would be roughly analogous to that wherein an employee is to bear a proportionate share of the taxes remaining after his compensation has been charged as an expense. Again, the author might have summarized the arguments made by the secretary of the treasury in the latter's suggestion that section 200 be amended. Possibly this latter omission was intentional in order to avoid suggesting ways whereby the personal service corporation could be misused in escaping surtaxes. Differences of opinion as to theories and differences in practice on minor points are immaterial when the value of the edition as a whole is considered.

Harold Dudley Greeley.

A SURVEY OF COMMERCIAL EDUCATION IN THE PUBLIC HIGH SCHOOLS OF THE UNITED STATES, by LEVERETT S. LYON, A. M. *University of Chicago Press.*

Probably most of us have a vague impression that during the last few years there has been quite an increase in business courses offered in the public high schools of the country. The figures compiled by Mr. Lyon in this monograph will doubtless be surprising, nevertheless. He gives the number of commercial students in private and public schools as follows:

	1893	1915	*% Increase*
Private commercial schools.........	115,748	183,286	58.7%
Public high schools................	15,200	208,605	1,270.5%
Both	130,948	391,891	122.9%

The total number of commercial students has more than doubled in twenty-two years, but the increase in the public school courses has been twenty-three times that of the private schools.

Most of the monograph is devoted to statistics and discussions of the organization and subjects of study in the high school courses, the general conclusions of the author being that there is much room for standardization, and that the courses should be broadened, partly to enable the high school graduate to pass the entrance examinations into business schools of collegiate grade, and partly to give him a wider view of the world of commerce in general.

The author lays some stress on the alleged demand of business men for better trained clerical help, a point which seems supported by the number of advertisements we see in the "help wanted" columns containing the words "high school graduate preferred." Speaking from the viewpoint of an observer, however, we are in doubt whether the alleged demand is for broader training. The average business man of our acquaintance complains bitterly of the lack of elementary training in the three R's, and we think what he asks is not broader but more intensive training.

W. H. L.

COMMERCIAL RESEARCH, by C. S. DUNCAN, Ph. D. *The Macmillan Company,* New York. 385 pp.

Beginning with chapter IV the author takes up in successive chapters the sources, character, methods of collecting, analysis, presentation and interpretation of business facts, with closing chapters on organized research work and the fundamentals of business analysis. The book should prove helpful to the business man who is trying to see his way to better business and larger markets. There are plenty of practical suggestions and illustrations of methods and graphics to appeal to the man of the "concrete mind."

The first three chapters seem rather superfluous. Business research in one form or another has been characteristic of the commercial world for the last twenty years, and it hardly seems worth while to spend so much

time and space advocating the obvious. Still much must be pardoned the enthusiast in his own line, particularly in view of the masterly skill with which Dr. Duncan has marshalled his facts and principles. The glowing enthusiasm of the last chapter—"The new business"—arouses one's sympathy, but, alas! we fear the war has not brought the millennium any nearer in business than in politics.

A SYSTEM OF BOOKKEEPING FOR GRAIN ELEVATORS, Bulletin No. 811, United States Department of Agriculture, by B. B. MASON, FRANK ROBOTKA and A. V. SWARTHOUT.

Attention of public accountants, especially in the west, is called to *Bulletin No. 811* issued by the department of agriculture. It describes the method of operating a uniform system of grain elevator accounting to answer the requirements of grain elevators at country points throughout the United States. A list of accounts with clear and complete directions how to use them is furnished, together with forms of tickets, cash-journal, records, etc. For those who desire to instal the system the bureau of markets has provided printer's copy of the several forms for free distribution.

W. H. L.

Louis G. Battelle announces that he has admitted to partnership Gordon S. Battelle, and that the firm name will be Battelle & Battelle, with offices in Dayton Savings & Trust building, Dayton, Ohio.

Alvin J. Rosencrans and Reuben Hirsch announce the formation of a partnership under the firm name of Rosencrans & Hirsch, with offices at 299 Broadway, New York, and 208 Broad street, Elizabeth, New Jersey.

Marwick, Mitchell & Co. (New York) announce that Norman G. Chambers has been admitted to the firm.

Irvin A. Winegrad announces the opening of an office at 314 Bulletin building, Philadelphia.

Schindler & Naren announce removal of their office to 1211 Chestnut street, Philadelphia.

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Auditing Features of the Mining Industry

By J. C. Hooker

Economics of the Business

Mining, industrially, belongs to a special group of three. It is like agriculture and commercial fishing, in that it draws all of its raw material directly from Mother Nature, and unlike nearly all other businesses in its general analysis. In other words, there are two essential factors which distinguish mining from most other lines of modern industrial activity:

First, the greater risk or extra hazard always involved, and,

Second, the outstanding fact that its uncertain life is fixed by that which nature has hidden in the ground and one is powerless to tell what or how much until some real development money is spent. Sometimes this returns a profit, but often only disappointment and no income—even with promising mineral deposits.

Hence, the peculiar hazards of prospecting, locating and operating mines frequently leave nothing for the investigator to audit, except accumulated expense, scrapped machinery and large deficits. However, development work on new prospects in American fields during the past sixty or seventy years has continued more or less steadily, and mineral production in the United States (including Alaska) amounted, approximately, to the huge sum of $5,011,000,000 during 1917—more in value than the returns from any other single industry save railroads. But a miner who sells his silver or coal is also selling, at the same time, a part of his mine. An apparent net income for any operating period is not all true profit, but part profit and part return of capital. This points to what are now becoming more generally known as "wast-

ing assets"—exhibited by the gradual exhaustion of natural ore-bodies and virgin coal deposits, decreasing flow of oil wells and cut-over timber lands, and identified by the specific term of depletion. The other related term, depreciation of physical property (houses, furniture, machinery, vehicles, etc.), is common to all classes of industries. But depletion refers only to natural resources, and is usually calculated by the method known as the unit-cost (per ton, pound, ounce, etc.) basis, so as to spread the periodical allowances therefor over a number of years and finally return to the owner or the lessor the full amount of his true capitalized costs by the time his mine or other deposit is completely exhausted.

This item of depletion has been fitly described as "precisely like an account in a bank which is being wound up by a receiver" and does not carry with it the current idea of a continuing enterprise so often taken for granted in other industries like shoe manufacturing, wheat raising or a retail grocery—i. e., a fresh raw material supply for a coal mining plant or a copper mill cannot be drawn for a very extended period solely from one deposit or group of mines.

Business Organization

There are usually three different phases of the mining industry, all necessary to bring the native ore or raw material down to anything like a finished-goods state. Occasionally all three processes are combined under one operating company, but more often under two or three separate organizations corresponding to the successive stages in the completed product. These distinct steps are:

(1) Digging out or mining the raw material;

(2) Crushing it with stamps or rollers into pulp or concentrates; then

(3) Smelting this latter into the raw (blister) copper, unrefined silver, gold or other metal.

This last transitory product, in turn, is to be shipped long distances to refinery plants for a finishing process before it can be commercialized as salable goods.

These separate processes, then, necessitate a large organization, frequently with a small central or home office and larger ones cor-

responding to two, three or four large branches or subsidiary forces, e. g.,

(a) The mine office organization,
(with 500 to 2,500 employees);

(b) The mill office organization,
(employing 50 to 500 people);

(c) The smelter force,
(numbering 300 to 700 employees); and

(d) If the main plant, or mine, is in an isolated position, it frequently happens that a necessary fourth group of employees constitutes the transportation force required to operate a branch railroad, from 3 to 100 miles in length.

This last is needed for hauling the raw ore or quartz to a separate and well-watered mill-site, to a trunk line railway or to the distant seaboard, and for bringing in all necessary men, material and supplies.

Characteristics of its Legal Status

The legal status of a mining property is infrequently that of a single individual or a partnership: in the majority of cases it is controlled and operated by a corporate management or a consolidation of two or more corporations organized under the more favorable laws of an adjoining or distant state or even of a foreign country.

Special Characteristics of Accounting Books Used

Unfortunately for the investigator's purpose, the accounting books of the average small mining company consist merely of the usual cashbook, an incomplete ledger for controlling and a few expense accounts and a cheque book. In coal companies a sales register and a coal customers' ledger are added to the above. Also at the home office of some operators will be found a general journal, with such additional corporate records as a minute book and stock register; but frequently a comprehensive voucher register is used in lieu of a journal and nearly all important transactions, especially those relating to disbursements, are handled by journalizing everything through this medium, while the cashbook takes care of the receipts.

From the time books and time cards the usual voluminous pay-

roll is built up twice each month; thence its distributions of labor (and also the warehouse distribution of sales to employees, outside purchases and material) are expeditiously worked into the ledger, by means of the above-mentioned voucher register, with only two corresponding voucher entries. This register is provided for each separate month with a distinctive serial number indicating that month, so that entries for a later month can be easily carried along concurrently (under a method of consecutive odd and even numbers), without waiting for the close of the current month's record.

In a few instances, among the smaller mining companies and partnerships (as with many small modern oil operators), the cashbook, journal and voucher register are all combined in one columnar book (of the "Boston ledger" type), wherein all entries are made when the bills are paid. In preparing these vouchers, when the corresponding cheque is drawn separately, the voucher number is entered on the cheque stub and the cheque number on the face of the voucher; in other cases, a combination voucher cheque (perforated horizontally through its middle portion) is drawn and forwarded to the payee, who detaches the cheque, receipts the voucher portion of the document and returns it. All supporting data are then fastened to this receipted voucher, or its retained duplicate, and it then becomes a docket (or file-wrapper) for the protection of connected papers as well as a receipt to vouch for the payment.

Of course, among the larger operators, the auditor will usually find the standard cashbook, journal and ledger, together with all necessary subsidiary records—including accurate and exhaustive assay and metallurgical registers, from which can be verified the raw (or mine-run) output, mill products (or concentrates), metal contents of each car of ore, the fineness of each metal mined, minute details appertaining to the cost records of each separate deposit or mine, mill and smelter production and the sales of the finished products or equivalent shipments to refinery plants. Where labor payment is made by cheque and the payrolls contain many names (often listing as many as 2,000 and 2,400 persons monthly) the payroll cheque register should show accurately and in serial order all cheques issued during the month or other period covered; and its footings or totals must correctly balance against the total

audited vouchers, plus the combined amounts of cancelled, spoiled and unclaimed pay cheques and all daily time cheques issued between the regular pay dates covered by the investigation.

Mining Assets

The assets of a mining concern differ from those of an ordinary business in that the principal item. generally representing the value of an ore deposit, coal bed, rock quarry, clay field, etc., is of a vanishing or wasting nature, directly dependent upon the life of the property, expressed in months or years required to extract all the raw material and reduce that asset to nothingness—hence the origin of annual depletion deductions or reserves out of current income to replace or redeem the initial capital assets costs as a purchase fund for a new mine or further raw supply.

False or excessive goodwill to cover up capital deficiency in regard to tangible assets, like mining leases donated or options on mining claims purchased, is frequently set up by mining concerns to inflate the debit side of their balance-sheets. These excessive values should be "unwatered" by the careful auditor.

Then again, the ownership value of a mining claim or patent right to mining land ofttimes hinges on keeping up certain stipulated assessment requirements, like compulsory physical improvements on the property each year, in order to retain the title. Otherwise, a lapse in the development work leaves the property open to claim jumpers and may entail a total loss to the first owner to the extent of all original costs plus any subsequent development expenditures.

Relatively speaking, principal mining capital assets possess a large contingent element, rather than a fixed and permanent status.

Special Features About Mining Liabilities

Since the extra hazardous nature of all mining enterprises places them in a category distinct from undertakings of a more stabilized character, it would appear the part of wisdom and common business prudence to set aside from current earnings during each operating year certain voluntary reserves to safeguard and meet the ever-probable contingencies due to sudden accidents, mine explosions, underground fires, cave-ins and other mishaps

common to mining ventures. To avoid financial embarrassment in meeting the losses thus occasioned, contingent liability reserves should be built up, periodically, from net income, in amounts sufficient to provide for any emergency (with corresponding reserve funds on the assets side); but unfortunately this safe practice seems to date to have been the exception rather than the rule with the majority of mining corporations. This necessity is strongly emphasized by the fact that no insurance companies have yet been found willing to underwrite such enormous operating risks as attach to mines. This condition is illustrated in balance-sheet N under the sub-heading "mining balance-sheet."

If the parent mining company has subsidiaries which operate lumber mills, branch railways, power plants, coking plants, coal washers, steel plants, etc., as is frequently the case, careful search should be made for such liability obligations as notes payable transferred, guaranteed surety bonds of a subsidiary, speculative mining contracts when values are low, etc., where no entry appears and no contingent reserve has been set up. Such action or failure to make provision may readily be traced to the common human tendency to understate liabilities, rather than to overstate them or show the true status of all obligations.

Mention should be made here of the strict requirements of the present income-tax law (act of 1918) and supporting treasury regulations and decisions in regard to the allowable elements of invested capital for mining corporations; consequently, the closest scrutiny and most careful analysis of all capital liabilities become a prime duty of the auditor.

Proprietorship Accounts of Mines

Proprietorship accounts are not dissimilar from the same class of accounts in other industries, and, so long as an individual works a mine and keeps clear of bankruptcy, he can keep such accounts as he pleases. However, if no books at all are kept or if books are kept in an unintelligible manner, and an accounting is directed by the court, the presumption is against the negligent owner or operator.

In partnership mining properties, the usual capital account for each partner is maintained to take care of his proportional investments and withdrawals. There is, however, the special rule that

while co-owners in mining ventures share profits and losses equally, unless there is a specific written agreement to the contrary, this same equity does not extend to property holdings.

Mining Balance-sheets

The special features of the balance-sheets—those important, necessary and illuminating mirrors of any industry's financial progress and present condition—can best be demonstrated not in word pictures but in actual examples. Inasmuch as the general mining industry, comprehensively speaking, covers numerous and varied classes—each identified with peculiar characteristic details and slightly variable methods of operation—it is manifestly impracticable to interpret or represent fully and in exhaustive detail all classes of mineral production within the narrow scope of this paper. Therefore, there are here presented only two specimen mining balance-sheets, each distinct from the other but illustrating the two most prominent class-groups of the business, viz., metals and coal. As the year 1913 represents a low ebb, graphically and financially, in the fuel class of mining operations, form M is here given as a fair average exhibit of a typical deficit in that class. Likewise, as 1917 represents the peak-high year for prices and quantity of production in the metals class, form N has been selected as an instructive exhibit of a metal corporation's very creditable surplus during that year.

Form M *THE X COAL MINING COMPANY*

General Balance-sheet, December 31, 1913

Assets			*Liabilities*		
Cash assets:			Current liabilities:		
In bank....	$386.00		Vouchers payable	$6,233.00	
Advances to employees.	168.00	$554.00	Accounts payable	2,931.00	
			Unpaid wages.	1,401.00	
			Store cheques.	803.00	$11,468.00
Inventories:			Deferred or accrued liabilities:		
Coal	$5,127.00		Taxes accrued	$3,000.00	
Store	417.00				
Explosives...	173.00		Accrued interest	2,345.00	
Stable	68.00	5,785.00			
			School funds (in trust)..	282.00	5,627.00

Accounts receivable.....		$6,247.00	Reserve for depreciation..		$18,000.00
Deferred assets:			Capital:		
Unexpired insurance..	$104.00		Capital stock..	100,000.00	
Accrued royalty	130.00	234.00	*Less* unsold...	27,500.00	72,500.00
Fixed assets:					
Plant & fixtures	$39,077.00				
Less depreciation	20,605.00				
	$18,472.00				
Mines*	12,250.00				
Surface land, (real estate)	50,000.00	80,722.00			
Deficit (operating)......		14,053.00			
		$107,595.00			$107,595.00

FORM N

BIG Z METALS MINING CORPORATION

Balance-sheet, December 31, 1917

Assets

Current (or liquid) assets:			
Cash at X office...............	$132,390.00		
Cash at Y office...............	6,552.00		
Call funds in New York office..	460,014.00	$598,956.00	
Accounts receivable	$55,671.00		
Less reserve for doubtful accts.	3,100.00	52,571.00	
Contingent fund (contra)..................		1,029,408.00	$1,680,935.00
Inventories:			
Mine and mill supplies.........	$120,900.00		
Office supplies	5,078.00		
Bullion in transit..............	216,312.00		
Ore on hand...................	11,544.00		
Concentrates on hand...........	35,582.00		389,416.00

* This represents an old mining property practically depleted, with plant, buildings and machinery ready for scrapping. It also illustrates the point of non-impairment of invested capital by an operating deficit, hence not shown as a deduction from capital liabilities.

Deferred assets:			
Employees building loans	$31,212.00		
Advanced insurance (unexpired)	3,000.00		
Accrued interest (unpaid)	18,889.00		$53,101.00
Fixed assets:			
Mining claim "patents"		124,318.00	
Mines (operating)	$3,100,260.00		
Less reserve for depletion	760,058.00	2,340,202.00	
Mill and plant (12/31/16)	$1,877,008.00		
Construction added on new smelter during year	1,589,089.00		
	$3,466,097.00		
Less depreciation (1917)	675,644.00	2,790,453.00	5,254,973.00
Total assets			$7,378,425.00

LIABILITIES AND CAPITAL

Current liabilities:		
Mine drafts payable	$58,847.00	
Pay cheques outstanding	83,588.00	
Vouchers payable	43,029.00	$185,464.00
Contingent liabilities:		
Unpaid damage suit against new smelter process	$1,018,914.00	
Reserve for accidents	114,000.00	1,132,914.00
Fixed liabilities:		
Funded debt (bonds)	$50,000.00	
Mortgage payable	110,000.00	160,000.00
Capital and surplus:		
Capital stock	$3,270,000.00	
Less unissued	115,000.00	
Total outstanding	$3,155,000.00	
Surplus (12/31/16)	1,741,947.00	
Net profits for 1917	1,003,100.00	5,900,047.00
Total liabilities and capital		$7,378,425.00

Special Features of Mine Expense

Best results are found in plants where accuracy, clearness, simplicity and applicability are the prime elements of the system. While many features of a comprehensive mining cost plan are in

common use in different fields and in different groups of mines in the same field, yet no iron-clad uniform system is strictly applicable to all cases in the same class of mining nor in all classes of mineral production. A careful analysis of the particular demands to be met should furnish the guiding motif of the system installed, and the accountant, manager and his engineering staff should be found coöperating to work out the details of that system.

It is believed that the outlined cost schedule, illustrated in the three tables and notes given below, very fairly covers the elastic practices of most going concerns in the mining industry of the United States to-day. As a general rule, there is very little advertising expense incurred, and no indemnity insurance against operating accidents like mine fires, explosions and flooding can be secured. Then besides those expense items common to other industries—like general, office, superintendence, taxes, interest, repairs, workmen's compensation insurance, etc.—the following special cost segregations are in use by many mining companies:

TABLE A

COST ACCOUNTS

Special expense items—Mining operations

Mining (*)	Milling	Smelting
Engineering	Steam plant	Sampling (or laboratory)
Breaking ore	Pumping	Boiler-house
Timbering	Electric power & light	Power-house
Hoisting	Rolls or stamps (coarse crushing)	Ore and coke delivery
Tramming (or haulage)	Regrinding	Roasting
Sorting and loading	Screens and elevators	Pumping
Mine cars and rails	Tables and vanners	Mud-mill (lining for converters)
Track laying	Conveyors	Crane (overhead)
Pumping (or drainage)	Laboratory	Loading bullion
Ventilation (fans, etc.)	Teaming (stable exp.)	Hauling slag
Lighting	Machinists	Briquetting (or molding)
Assaying and sampling	Blacksmiths	Lighting
Surveying	Electricians	Electrical shop expense
Change-house	Carpenters	Tramming (or hauling)
Saw-mill	Cooling pond	Belt conveyors
Warehouse (mat. and sup.)	Tailings expense	Cooling pond
Explosives (blasting)		

(*) For slight variations to cover coal mining expense see next table (B).

TABLE B

Items of coal mining expense

1. Mine office
2. Superintendence
3. Engineering
4. Mining
   a. hand
   b. machine
5. Timbering
6. Deadwork
7. Tracklaying
8. Drainage
9. Ventilation (blowers and fans)
10. Haulage and hoisting
11. Dumping and tallying
12. Preparation (sulphur and slate picking, etc.)
13. Loading in railroad cars (including yard expense)
14. Power*
15. Repairs (buildings and structures)
16. Miscellaneous (or sundries)†

* The power utilized in operating screens, crushers, elevators, conveyors, picking tables, loading booms, etc., and material and labor charges for repairs to all such equipment are commonly classed under the heading of "preparation" of coal for the market. The item of power is further distributable to machine mining, haulage and hoisting, drainage (pumping) and ventilation (fans).

† If a washer is operated, its cost and operation should stand as a separate entity.

The same is true of a coking plant.

TABLE C

Daily labor and production report*

Date...................., 191...

Surface	Total 3 shifts	Underground	Total 3 shifts
a. Office force		a. Mine foreman	
b. Mining engineering		b. Shift bosses	
c. Mill foreman		c. Miners—machine	
d. Smelter superint'dt		" hand	
e. Master mechanic		d. Muckers	
f. Machinists		e. Timbermen	
g. Electricians		f. Nippers	
etc.		g. Shaftmen	
		h. Trammers	
		etc.	
i. Total men............		i. Total men............	
		j. Product per man......	

k. Total number of men employed......................

*As a check upon the timekeeper's daily reports, from which the payroll is prepared, surface foremen and underground shift bosses are required to take each man's time as they make their rounds, and submit independent reports to the superintendent, for the purpose of verifying the bi-weekly or monthly totals shown on the payrolls.

l. Product per man....................................
Number of cars trammed....................
Number of tons hoisted......................
Etc.
Total product per month.................days..........
Average daily product for month........................
Number cars shipped from stock pile...................
m. Tons of ore (or coal) hoisted.......................
Etc., etc.

.... Timekeeper.

In addition to the more or less standardized expense elements listed above, the following special points should be noted:

(1) In coal mining the maximum work time is 300 days—with a liberal average of 210 days—and the cost per ton varies accordingly. But at most large metal mines operations shut down only on Christmas day, and occasionally on the fourth of July; and there the usual operating rule is 24 hours a day, in three 8-hour shifts.

(2) The mining operator is entitled to a greater margin of profit on account of the peculiar hazard not present in other industries. In the event of heavy floods, washouts or mine-fires, the extra expense of recovering the mine or flooded workings should be shown as a special and separate charge to operations. If experienced foresight has provided an accident reserve for such a contingency, as before-mentioned in this paper, such special charges can be met without embarrassment.

(3) Another cost element is the ever-changing values of coal properties, due largely to fluctuating demands for fuel, which vary directly with seasonal temperatures and industrial activity, besides slighter variations traceable to obsolescence of certain classes of mining equipment and conservative or non-conservative mining methods in different coal fields.

(4) Coal operators mine their most valuable coal deposits first, but copper men do the opposite when prices are high, and thus leave their high-grade ore reserves for the dull seasons.

(5) Mining costs, then, may be briefly summarized as follows:

a. Primary cost = actual expenses of operating, excepting interest and payments on borrowed capital.

Here metals and coal follow the same general expense schedules, with special increments for metals due to necessary treatment of the concentrates and bullion by smelting and refining processes to bring them to a finished marketable state. An interesting comparative estimate, between the two general classes of mining operations, may be gathered from the table on page 254—though, unfortunately, statistical figures showing costs per pound, ounce, ton, etc., are not available, nor, in fact, existent for purposes of comparison at the present day:

b. Secondary cost = charges for depreciation, plus depletion, plus interest on investment and capital, plus taxes, plus risk, plus shipping and selling expense, plus reasonable profit.

c. Primary plus secondary = selling price, in both instances.

Special Characteristics of Mining Income

Mining income, in the case of raw blister copper or bar gold and silver, are mainly derived from sales of what should be termed unfinished (instead of finished) products, since this semi-raw material must yet go to the refineries to be converted into merchantable goods.

Then, in addition to actual receipts from sales of silver, copper, gold, lead, zinc, iron, coal, phosphate, platinum, sulphur pyrites, tin, cobalt, clay, etc. taken from underground workings, there are considerable profits from the company stores commissary and boarding-house operations, cottage and ground rentals to employees, sales of safety lamps, candles, black powder, fuses and other explosives, water rentals, power and light rentals to associated companies and neighbors or town sites, and very frequently from surface farming operations and timber sales on surplus land not in actual use for mining purposes, plant buildings, and mill or smelter sites. In one instance the writer knows of a 200-acre potato farm bringing in good revenue from extra surface acreage

THE COMPARATIVE PRIMARY COST ELEMENTS IN METAL AND COAL OPERATIONS

	Mining		Milling or preparation		Smelting	Refining
No.	Metals	Coal	Metals	Coal		
1.	Administrative	Administrative	Steam plant	*	Applicable to *metals* only. See table A.	Applicable to metals—but partly correlated to washery process for coal.
2.	Superintendence	Superintendence	Pumping			
3.	Surveying	Engineering	Rolls or stamps	Crushers		
4.	Breaking ore,	Mining,	Regrinding			
	a. hand	a. hand		Sulphur & slate picking		
	b. machine	b. machine				
5.	Timbering	Timbering	Screens and elevator	Screening		
6.	Hoisting	Haulage and hoisting	Jigs (concentrating)	Spiralizers		
7.	Tramming	(see No. 6)	Tables and vanners	Picking tables		
8.	Sorting and loading	Dumping and tallying	Conveyors	Conveyors		
9.	Mine cars and rails	(see No. 6)	Laboratory charges			
10.	Tracklaying	Tracklaying	Teaming	(Stables)		
11.	Pumping	Drainage	Machinists			
12.	Ventilating	Ventilation	Blacksmiths	Smithing		
13.		Deadwork	Electricians	Electrical		
14.	Lighting	(see No. 15)	Carpenters	Carpenter shop		
15.		Power	Coke			
16.	Explosives	(sub-account)	Cooling pond			
17.	Assaying		Tailings expenses	(Waste disposal)		
18.	Saw-mill	(sub-account)		Loading booms		
19.	Warehouse	Materials & Supplies				
20.	Repairs	Repairs				
21.	Incidentals	Sundries				

*All items in this column generally classified under the one term "*preparation*" in coal operations.

along a well-watered stream adjoining the mill and smelter plant of a successful copper operation in northern Arizona.

PROFIT AND LOSS STATEMENT

None of the features of a mining company's profit and loss statement needs special stress or particular emphasis, excepting the item "reserve for depletion," which is usually made up of successive monthly allowances set aside against the final extinguishment of the mineral deposits and is a proper deduction from the net profit figures in determining correct additions to surplus from the year's operations. See the following example:

"Y" COPPER COMPANY
Profit and loss statement, December 31, 1918

Metal sales:		
From copper produced		$1,330,440.00
" silver "		5,495.00
" gold "		20,279.00
		$1,356,214.00
Less cost of production:		
Total mining expense	$640,872.00	
" milling charges	302,016.00	
" smelter charges (or fees)	115,100.00	
Total production charges		1,057,988.00
Gross operating profit		$298,226.00
Add other income:		
Royalties	$17,500.00	
Rents	5,210.00	
Powder sales, etc	2,300.00	
Store accounts	5,200.00	
Farming and timber sales	6,007.00	
		36,217.00
Total profit		$334,443.00
Less other deductions:		
Interest, exchange, etc	$18,900.00	
Taxes (local and federal)	14,001.00	
Experimental expense	19,791.00	

Legal (organization) expense	$4,129.00	
Transfer (to smelter) expense, or freight outstanding	6,141.00	
		$62,962.00
Net profit		$271,481.00
Less reserve for:		
Depreciation for 1918......................	$62,533.00	
Depletion for 1918.........................	71,082.00	133,615.00
Profit and loss (to surplus).......................		$137,866.00

Journal Entries

Journal entries for typical mining transactions may be appropriately illustrated by the following examples:

A. If a mining corporation is formed with a capital stock of $400,000. and the entire amount is issued in exchange for one developed mine and options on other mining claims adjoining the main property, and agreement is made to return or donate to the corporation $150,000. face value of this stock, for working capital purposes, the entries would appear as follows:

(1)	Lone Tree mine.........................	$250,000.00	
	Other mining claims (options)............	150,000.00	
	To capital stock		$400,000.00
(2)	Treasury stock	$150,000.00	
	To donations (working capital)..................		$150,000.00
Then,			
(3)	Cash	$70,000.00	
	Donations (working capital)..............	30,000.00	
	To treasury stock................................		$100,000.00
	(Representing sale of 1,000 shares of common capital stock returned to the treasury and sold at $70.00 a share.)		
Later,			
(4)	Stripping and development	$35,000.00	
	Sinking shaft No. 1......................	10,750.00	
	Engineering surveys	7,250.00	
	Saw-mill installation	11,480.00	
	Tipple construction	1,520.00	
	Mine railway trackage	4,000.00	
	To cash		$70,000.00

The above development charges would later be capitalized, by spreading them over several fiscal periods, as soon as operations had progressed sufficiently to furnish increased earnings for that purpose.

B. To provide for the gradual extinguishment or exhaustion of the coal deposit (or ore body) out of current income during each year while actual tonnage is being mined, the following is applicable:

(1) Depletion (1/12 monthly, or year 1919)....	$19,152.00	
To reserve for depletion		$19,152.00
(This is based on unit-cost [en bloc] output of mine during the year, say 840,000 tons of coal at .0228c. per ton.)		

Later, when the mine is practically worked out or down to a salvage basis, the final adjustments for residual values would appear thus, leaving the restored capital sum free as purchase money for a new mine or location:

(2) Profit and loss...........................	$3,750.00	
To mine (coal pillars, etc).......................		$2,620.00
Plant and machinery (scrap, estimated)..........		1,130.00

Special Auditing Points to be Considered in Mining Engagements

(a) Careful attention should be paid to any lump charges carried to capital accounts in order to uncover any operating expense items—such as mine administration salaries, electrical repairs, removal of slate, maintenance of mine cars, timbering, depreciation of rails, assaying, explosives, etc.—that may have been included in the development or plant investment figures.

(b) Adequate reserves for depreciation of all physical assets about the plant should be set up, and if no provision for depletion of wasting assets, such as ore bodies, coal deposits, standing timber, etc., has been made, the auditor should invite particular attention to this omission, and explain the basis for this desirable and permissible reserve from income in regular, periodical instalments.

(c) As miners are generally paid on the basis of tons of coal or other mineral actually mined, the production for a given period should be easily verified, if the auditor first satisfies himself as

to the correctness of inventories at beginning and end of period Both sales of output and miners' wages can be checked in this manner.

(d) In the case of many iron and coal properties the raw material is mined from leased land, for which royalties are paid at an agreed rate per ton, fixed in the original lease or contract, and extending often over a period of seven to thirty or more years. These royalties should always be verified from the lease and production records, rather than from receipted vouchers on file, as there is ofttimes ample opportunity for fraud or collusion in securing local receipts for voucher payments. When minimum royalties must be paid, whether production covers the outlay or not, the balance of the payment is often treated as a deferred charge, such as "royalties in advance," until the yearly tonnage output again exceeds the minimum. Then this deferred account may be cleared by successive charges to operating expense.

(e) Many mine and smelter payrolls are voluminous, and, in some instances, there are excellent internal checks from time cards and other time-keeping records, but in the main the correctness of each payroll can only be verified by the manner of its preparation and payment—preferably passing through the hands of three or more persons before actual payments are made by cheque. The average payroll provides deduction columns for such items as powder sales, safety lamps, cottage and water rents, board, commissary and store accounts; and the auditor should carefully examine these various accounts to see that proper credits have been entered therein for the corresponding totals of the payroll columns. In payroll allowances most copper companies and some silver and gold companies base their wage rates on a graduated daily scale, per 8-hour shift, plus a flat 10 cents (or more) daily bonus to all grades of employees, or a 15% to 40% straight monthly bonus based on the average price of the raw metal in the New York market for the preceding month. But coal miners are usually paid on the prevailing price for lump, screened or mine-run ton of output.

(f) Unless accurate and careful assay and metallurgical records are kept at the plant, as frequently happens, one will find no thorough check on the production of some copper, silver and other metal mines, since it usually varies with the fineness of each

ton of output. If the raw ore or quartz is shipped elsewhere for milling and smelting, or is sold outright to a customs smelter, careful sampling and assay records are immediately made on receipt of car-load lots; and, in the event of disputes or disagreements as to the metal contents of the ore or concentrates, an independent umpire (always an experienced inspector) is employed to decide the issues and his judgment is final for both parties in regard to the financial settlement sheets. These record sheets should always be scrutinized.

(g) Usually the superintendent's reports to the main office, as to expenditures, are such as to permit a proper and correct analysis by an auditor, but some mining concerns are extremely secretive about their records and financial affairs and are prone to disallow inspection by either government or other agents.

Conclusion

As a final suggestion, all accountants should urgently recommend uniformity of accounting practice in all classes of mining operations, with evident benefit both to the owners and management of such enterprises and to the accounting profession. It is noted, with keen interest, that this lack of uniformity in mine accounting is particularly emphasized by Wade Kurtz, in his excellent paper appearing in the January, 1920, issue of The Journal of Accountancy.

Payroll Audit—The Duties of the Auditor

By Grafton Whiting

In examining the books of a modern manufacturing plant, it will be found that the amount represented by the payroll is a large if not the largest current expenditure and, by comparison, the one that is susceptible to the most irregularity.

The accuracy of cash expenditures for the purchase of material may be readily audited through examination of the records and vouchers. The proof of the accuracy of the payroll itself is, however, an entirely different matter and should be treated as a separate task.

The benefits to be obtained from the payroll audit are those in common with any audit or verification of bookkeeping; viz., that it establishes a confidence in the mind of the executive that the work is being properly done and that the results after a professional investigation are as they should be.

The special purposes of a payroll audit may be briefly described under the following headings:

Verification of the payroll figures.
Process of paying off.
Discovery of opportunity for padding.
Suggestions for improvement.

There can be no fixed procedure, nor can there be any fixed statement of the benefits to be derived, as each audit has its peculiarities and the results must be based upon the findings when the work is completed.

But, in general, it may be stated that the operators seeing the auditors at work appreciate that the accuracy of the clerical work in compiling the payroll and the general procedure is being proved by outside and unbiased investigators. When two or more audits are conducted during a year at times unknown to the office and payroll staff, the moral effect obtained is worthy of note.

Verification of the Payroll Figures

The main object in verifying the figures is to ascertain that they are correctly compiled from the records. The supporting records of the payroll must next be investigated and the time records and piece records proved to be properly made out and systematically recorded, to ascertain that the records are justified by the conditions found.

Time records

There is considerable variety in methods of time-keeping in different plants, but in the main the auditor should find a distinct proof that the operators were in the plant and at work during the periods shown on the time record.

Irregularities in the time recording should be followed through to ascertain whether they are purposely inaccurate or through error incorrect figures are used. Time-keeping is apt to be regulated according to past custom, and this past custom in many instances is based on old-fashioned methods which have outgrown their usefulness.

Piece work

The process of checking piece rates consists of two parts: first verifying the accuracy of the rates and that these rates are properly established; and, second, ascertaining that the quantities represented by the production so reported are justified by the output of the department. It is necessary to trace back the origin of the production records and to ascertain what opportunity there is for overstating production through false weights or count or tampering with mechanical recording devices.

Payroll figures

The extensions on the payroll should be verified as far as practicable. This may be accomplished by certain tests or may be carried through in detail. Experience has shown that errors in extensions are largely due to carelessness, and that there seldom is an attempt at falsification in carrying out the extensions on the payroll itself.

The footings of the payroll, however, should be verified throughout and the total should be in agreement with the amount of money withdrawn from the bank for payroll purposes.

Process of Paying Off

In the process of paying off, identification of the operator paid is an important feature of the audit, in that each item on the payroll should be found to be paid to the operator whose name or number appears opposite the entry.

It is not practicable in large plants always to have the operator's name called at the time of paying off, but there should be some system of pay slips or brass checks or at least identification by the foreman of the room or the paymaster as a check against paying the wrong person. Care should be exercised that one operator does not receive more than one envelope, unless the payroll is divided, as it is in some instances where an operator's name appears more than once on the roll. The unclaimed envelopes in the payroll should be collected by the auditor and be brought by him to the office for proper accounting.

The recording and checking of these unclaimed envelopes and their care in the office should form a part of the auditor's report. In ordinary circumstances, the unpaid envelopes should be registered as a part of the office system and care should be exercised to see that they are properly checked off as payment is made. It is preferable that a double check be instituted and that each payment be initialed by the clerks in charge. After lapse of a month the unpaid envelopes should be opened and the currency should be deposited in the bank, a proper liability being set up on the ledger.

Discovery of Opportunity for Padding

Opportunity for padding the payroll, it will be found, frequently exists. This padding may be the increasing of hours or piece work performed or may take the form of carrying dummies on the payroll itself.

It is one of the objects of the audit to discover such instances, the possibilities for them and a means of prevention. An experienced auditor will find this one of the most interesting parts of his work, as the opportunities for padding are so varied and alluring to the wrong-doer.

Suggestions for Improvement

Suggestions for improvement are necessarily governed by the conditions found, but may be generally classified as follows:

1. Accuracy.

2. Clerical saving.
3. Method employed.
4. Changes in forms.

1. *Accuracy.*

Under accuracy may be mentioned more direct methods of compiling records; checking between time cards and mill records of attendance; elimination of copying a signed approval by the foreman of payroll for his department; the initialing of all deductions or increases showing authorization by the foreman.

2. *Clerical saving.*

Opportunity for clerical saving is abundant where old-fashioned methods govern payroll compilation. It will often be found that it is the custom to have prepared for the office a neatly written payroll record, usually a careful copy of some other preliminary report. Work of this character is largely duplication and open to error.

3. *Methods employed.*

The method of making up the payroll should be investigated in the office to ascertain whether or not records of rates, both time and piece, are in quickly available form for the payroll clerks to use.

The process of putting the currency in envelopes should be reviewed with the idea of simplifying the work.

In the method employed in paying off employees there is an opportunity for suggestion as to the routing of the paymaster and the rotation of paying off, particularly in arranging the employees and their numbers, to avoid delays in the departments.

4. *Changes in forms.*

In reviewing the forms used, it will often be found that the pay sheets themselves can be improved: first, to facilitate departmental divisions for summary purposes; second, to eliminate the re-writing of the names; third, to provide space for deductions and allowances; and, fourth, to provide a means for checking the sheet by column footings.

Time reports, where clock cards are not used, should be so arranged that the original entry comes to the office for use in making up the payroll. Piece record forms should be such that

direct proof may be obtained from production records, either as the product is delivered to the next department or through movement in the department itself.

A form should be provided for making or changing either piece rates or time rates and should be approved by the foreman or the executive who has this in charge.

There are many mechanical devices of assistance in payroll work, such as addressing machines for printing names on the payroll and envelopes, numbering machines, card indexes or visible indexes for rate records, computing tables or calculating machines for making extensions, denominator machines for determining the number of different coins necessary in making up the payroll and automatic change-making machines purposely made for payroll purposes.

Typical Payroll Audit Procedure

In planning a payroll audit, it should be arranged that at the time of the audit there will be one man to accompany each paymaster and one man to supervise the pay window. If there is only one paymaster, only one man need accompany him, but in the office there should be an auditor to take in charge any pay envelopes remaining and to supervise the paying off at the window.

The auditors should arrive at the plant early on the payroll day and plan their time so that no delay will be experienced by the paymaster in starting his work or in the actual process of paying off. The following is typical of a two-man audit in a plant employing 500 to 1500.

The procedure.

The first task is that of comparing the pay envelopes with the payroll and checking on the pay sheet.

One auditor will then accompany the paymaster on his round of paying off. It is this auditor's duty to note the identification of the employees. Where receipt forms are used, the names on the receipts should be compared with the envelopes. Where brass checks are distributed the number should be compared with the number on the envelope.

The auditor will note all irregularities and chances for introduction of dummies or for an employee to repeat or draw pay for another. The general route and method of paying in the plant

should be observed, to form the basis for suggestions for improvement.

All unclaimed envelopes will be taken in charge by the auditor and later be listed as to number, name and amount.

The duty of the second auditor will be to remain in the office in the neighborhood of the pay window and observe the paying off of any employees calling for back pay envelopes. He will also check the pay envelopes against the payroll for the second trip through the plant, provided two or more trips are necessary. He will watch the process of paying off the office assistants and ascertain the methods employed for paying off the night force if it is not feasible to be present when this is done.

After the actual paying off has been accomplished, the auditors will verify the total of the payroll with the amount withdrawn from the bank. They will prove the footings on the payroll and will test the extensions.

The next task is to investigate the method of time-keeping to ascertain if there is a sufficient proof that each employee on day work was in attendance for the full time stated on the payroll. The rates paid to day employees should be verified and the procedure in establishing these rates and the computing of the rates on the payroll should be noted.

The piece records showing the amount produced by operators on piece work should next be reviewed, with such collateral proof as can be found to justify the production claim. The rates for piece work should be investigated and the methods of computing the payroll should be reviewed.

The extensions of the amounts on the payroll are then to be verified, either in detail or by random tests, in accord with the desires of the client.

Throughout the work the auditor will have in view the preparation of the report vouching for the accuracy of the payroll and also the inclusion of suggestions for improvements.

Process Costs

By Harold A. Eppston

Introductory

The general manager of an aeroplane motor company informs the cost department that he desires the costs of valve guides by operations. He believes that if he has information of this type he will be enabled to cut the costs by changing the number or order of the operations. But before he can do this he must have costs by operations each month so that he can form his judgments from the changing costs.

Heretofore the cost department found costs for valve guides by jobs.

The cost department welcomes the opportunity for changing the method of costing because the job-order method of costing was unsatisfactory on account of the peculiarities of the production. Because the war programme production in the department where valve guides were made was continuous—day and night shifts worked ceaselessly. The valve guides went from machine to machine in a steady stream. It became impossible to associate each lot of valve guides with a job. The jobs were issued in lots of twenty, but many valve guides would be scrapped or spoiled before completion. As a result there was much guesswork in showing the quantities finished or spoiled on each job. When valve guides came from the last operation to which job did they belong? The question becomes more difficult to answer when we consider that things like the following took place:

A valve guide on operation number 10 is defective. The operative sends it back to operation 2 for correction and at the same time continues working on the rest of the valve guides covered by the job. It is almost certain that the identity of that valve guide will be lost.

Because of the employment of a new man on operation number 5, valve guides begin to accumulate near his machine. The men at operations numbers 6, 7 and subsequent operations are held up.

The foreman gives orders that the valve guides go to operations numbers 6 and 7, then back to number 5, so as to keep everyone working. Here, too, the identity of the valve guides as to jobs is sometimes lost.

In the face of these facts a cost by operations or a process cost was welcomed by the cost department.

Physical inventory.

As has been already mentioned the costs of valve guides had been kept by jobs. The change from job costs to process costs takes place October 1st. At midnight September 30th the night shift is stopped and an inventory is taken. Results are as follows:

TABLE I

INVENTORY: VALVE GUIDES, OCTOBER 1

Oper. number	*Job number*	*Quantity*
1	234567	20
1	234566	5
2	234566	14
3	234567	20
4	234569	15
4	234570	4
5	234570	13
6	234579	20
7	234576	18
8	234578	22
9	234572	24
10	234573	19
	Total.	194

A glance at the inventory will show how unsatisfactorily the job-order system operated in this case. On operation No. 8 there are 22 valve guides. The job started with only 20. It appears that some unidentified valve guides were thrown against that job. A similar condition exists with operation No. 9 and it is probably true of the rest though not apparent from the quantities.

Book inventory.

The cost department clerks pull from their files the open jobs on valve guides. They find the following jobs with the following charges against them.

TABLE II

Job number	*Quantity ordered*	*Material*	*Labor*
234566	20	$ 80.50	$ 79.01
234567	20	80.50	80.20
234569	20	80.50	82.11
234570	20	80.50	86.07
234571	20	80.25	90.01
234573	20	80.25	112.28
234572	20	80.25	99.09
234576	20	80.30	120.30
234578	20	80.30	122.11
234579	20	80.30	120.06
Totals	200	$803.65	$991.24

The differences between quantities ordered and quantities present at physical inventory are the spoiled pieces and, of course, errors due to allocating valve guides to the wrong jobs.

It will be noticed that job 234571 shows a material and labor chaɪge; yet there are no valve guides for this order in physical inventory. This is probably due to carelessness already described. The identity of the valve guides belonging to this order has been lost and they have undoubtedly been picked up by other jobs.

Opcration labor costs.

To gather costs in the new way, the cost department orders the shop clerks to count all valve guides as they leave each operation and put the quantities on the job labor card of the operative.

The summaries of these job labor cards for October show the following:

TABLE III

LABOR COSTS, OCTOBER

Operation number	*Quantity*	*Amount*
1	20	$ 18.75
2	25	20.01
3	20	22.02
4	20	18.98
5	18	20.09
6	17	28.03
7	18	29.05
8	19	24.07
9	20	22.17
10	20	25.18
	Total.	$228.35

Material charges.

Summaries of requisitions show that 21 rough valve guides were delivered to the valve-guide department for machining.

Summary of material issued to work in process October.

Twenty-one rough valve guides at $4.50=$94.50.

Overhead.

The overhead for the valve guide department was $456.70 or 200% of the direct labor. The same rate was used in previous months.

Final inventory.

The inventory of valve guides in process at midnight October 31st is as follows:

TABLE IV

	Operation	*Quantity*
	1	20
	2	18
	3	18
	4	20
	5	13
	6	19
	7	17
	8	19
	9	24
	10	19
	Total.	187

Spoiled pieces.

Summaries of spoiled pieces received by salvage department show:

TABLE V

	Pieces scrapped	*Operation number*
	1	5
	4	6
	3	8
Total.	8	

SOLUTION

Material costs.

From the inventory of valve guides at October 1st, it will be noticed that 194 valve guides were in process. From the book inventory of valve guides October 1st it will be found that against

those jobs in process had been charged 200 valve guides—the total material value being $803.65.

The fact that 200 had been charged to process and 194 are present at the time of physical inventory indicates that 6 valve guides were spoiled prior to the time when the physical inventory was taken. Hence the material cost for the 194 valve guides on hand October 1st is $803.65—thus letting the pieces still good bear the cost of those defective.

Furthermore, the summaries of requisitions show that 21 rough valve guides (value $94.50) were delivered to process during October and that 187 valve guides are left in process October 31st. That eight valve guides were spoiled during October and 20 valve guides were finished during October may be ascertained from the facts given. Material costs are found as follows:

TABLE VI

Material Costs—Valve Guides

	Quantity	*Unit*	*Value*
Inventory 10/1	194	$4.1425	$803.65
Charges in October	21	4.5000	94.50
Total	215	$4.1728	$897.15
Spoiled in October	8	......	......
Adjusted*	207	$4.3341	$897.15
Inventory 10/31	187	4.3341	810.47
Cost of finished pieces	20	$4.3341	$ 86.68

* Good pieces bear cost of spoiled pieces.

Labor costs.

To ascertain the labor costs by operations for October, it is necessary to distribute over the different operations the labor charges accrued against the valve guides on hand October 1st. How these charges have accrued and what proportion belongs to each operation cannot be determined by the job-order system of costing. Hence, to obtain costs there must be resort to an arbitrary method of prorating such labor over the different operations.

Two methods suggest themselves: first, to prorate the labor

on the basis of facts determined by a time study; second, to prorate the labor on the basis of the actual cost facts of the next period. The latter method is usually the more accurate and it is used here.

Turning back to operation labor costs, we find that the labor costs for October were as follows:

TABLE VII

Labor Costs, October

Operation	*Quantity*	*Amount*	*Unit operation cost*
1	20	$18.75	$ .9375
2	25	20.01	.8004
3	20	22.02	1.1010
4	20	18.98	.9490
5	18	20.09	1.1161
6	17	28.03	1.6488
7	18	29.05	1.6139
8	19	24.07	1.2668
9	20	22.17	1.1085
10	20	25.18	1.2590
	Totals.	$228.35	$11.8010

With the above information as to unit costs for October it becomes possible to prorate over the operations the balance of labor in process October 1st. But first it is necessary to trace the history of the inventory of October 1st over the several operations. The following illustrates how this is done:

From the inventory, valve guides, October 1st, we find the following:

TABLE VIII

Inventory October 1st

Operation	*Quantity*
1	25
2	14
3	20
4	19
5	13
6	20
7	18
8	22
9	24
10	19
Total.	194

It is evident that the valve guides on operation No. 10 must have passed through the previous nine operations. Those on operation number 9 must have traveled through the previous eight operations, and so on.

The following table shows the history of the above inventory by operations:

TABLE IX

Inventory Valve Guides by Operations, October 1st

0	1	2	3	4	5	6	7	8	9	10
25										
14	14									
20	20	20								
19	19	19	19							
13	13	13	13	13						
20	20	20	20	20	20					
18	18	18	18	18	18	18				
22	22	22	22	22	22	22	22			
24	24	24	24	24	24	24	24	24		
19	19	19	19	19	19	19	19	19	19	0
194	169	155	135	116	103	83	65	43	19	0

The above table merely shows that the 19 pieces on operation number 10 had passed through the 9 previous operations, etc. As a result the inventory of October 1st is shown by operations.

Assuming, as already indicated, that the operation costs prior to October 1st were identical with those of October, we can get a table as follows:

TABLE X

Bases of Prorating Labor Over Operations October 1

Operation	*Quantity*	*Unit*	*Total*	*%*
0	194	......	......	.....
1	169	$ .9375	$158.44	16.2
2	155	.8004	124.06	12.7
3	135	1.1010	148.64	15.2
4	116	.9490	110.08	11.3
5	103	1.1161	114.96	11.8
6	83	1.6488	136.85	14.0
7	65	1.6139	104.90	10.7
8	43	1.2668	54.47	5.5
9	19	1.1085	21.06	2.6
10	0	1.2590	......	.....
Total....	...	$11.8010	$973.46	100.0

It will now be noticed that if the costs of labor by operations for the period prior to October 1st were identical with such costs for October the total amount above $973.46 would be equal to the inventory of labor October 1, 1919. However, by looking back we find that the inventory of labor at October 1st was $991.24, or $17.78 more than the above. This difference exists because the operation costs prior to October 1st must have been greater than those of October. This difference, therefore, must be prorated over the amounts already set against the operations at October 1st.

The following table illustrates how this may be done:

TABLE XI

Inventory of Labor October 1 by Operations

Operation	*Quantity*	*Total*	*%*	*Adjustment*	*Final*
0	194	......	....	....	......
1	169	$158.44	16.2	2.88	$161.32
2	155	124.06	12.7	2.26	126.32
3	135	148.64	15.2	2.70	151.34
4	116	110.08	11.3	2.01	112.09
5	103	114.96	11.8	2.10	117.06
6	83	136.85	14.0	2.49	139.34
7	65	104.90	10.7	1.90	106.80
8	43	54.47	5.5	.98	55.45
9	19	21.06	2.6	.46	21.52
10	....	......	....	....	......
Total..	......	$973.46	100.0	17.78	$991.24

Now it is possible to get the true labor costs for October. But first it is necessary to obtain a statement showing the defective pieces by operations. This statement (table XII) has the same relation to table V as table IX has to table VIII.

TABLE XII

Statement of Defective Pieces by Operations, October

0	1	2	3	4	5	6	7	8	9	10	
1	1	1	1	1							
4	4	4	4	4	4						
3	3	3	3	3	3	3	3				
8	8	8	8	8	7	3	3	0	0	0	Total

The following statement shows the labor costs for October:

TABLE XIII

Final Labor Costs by Operations, Valve Guides, October

Operation	Inventory Quantity	October 1 Amount	Changes in Quantity	October Amount	Total Inv. & Quantity	Changes Amount
0	194	......	21	......	215	......
1	169	$158.44	20	$18.75	189	$177.19
2	155	124.06	25	20.01	180	144.07
3	135	148.64	20	22.02	155	170.66
4	116	110.08	20	18.98	136	129.06
5	103	114.96	18	20.09	121	135.05
6	83	136.85	17	28.03	100	164.88
7	65	104.90	18	29.05	83	133.95
8	43	54.47	19	24.07	62	78.54
9	19	21.06	20	22.17	39	43.23
10	0	0	20	25.18	20	25.18
Total	194	$973.46	21	$228.35	215	$1201.81

Adj. Spoilage	Adjusted Quantity	Amount	Unit Cost	Inventory October 31 Quantity	Amount	Completed Quantity	October Amount
8	207	....	....	187	......	20	......
8	181	$177.19	$.9789	161	$157.61	20	$19.58
8	172	144.07	.8376	152	127.32	20	16.75
8	147	170.66	1.1609	127	147.44	20	23.22
8	128	129.06	1.0079	108	108.90	20	20.16
7	114	135.05	1.1846	94	111.36	20	23.69
3	97	164.88	1.6998	77	130.88	20	34.00
3	80	133.95	1.6744	60	100.46	20	33.49
0	62	78.54	1.2668	42	53.21	20	25.33
0	39	43.23	1.1084	19	21.06	20	22.17
0	20	25.18	1.2500	0	0	20	25.18
8	207	$1,201.81	$12.1783	187	$958.24	20	$243.57

Reference to table XIII will show that both quantities and values check mathematically—that is, the inventory October 1st, plus charges for October, less deductions for spoilage, equals the total inventory October 31st, plus cost of finished pieces. This is true both of quantities and values.

To obtain overhead costs in this case all that is necessary is to set up a table similar to table XIII and multiply all values by 200%. However, if the overhead rate varied from one cost period to another the table would have to be worked out in detail.

The following is a summary of the costs per valve guide finished during October:

TABLE XIV

Summary—Cost Per Valve Guide, October

Operation	*Material*	*Labor*	*Overhead*	*Total*
0	$4.3341	$	$	$ 4.3341
1	......	.9789	1.9578	2.9367
2	......	.8376	1.6752	2.5128
3	......	1.1609	2.3218	3.4827
4	......	1.0079	2.0158	3.0237
5	......	1.1846	2.3692	3.5538
6	......	1.6998	3.3996	5.0994
7	......	1.6744	3.3488	5.0232
8	......	1.2668	2.5336	3.8004
9	......	1.1084	2.2168	3.3252
10	......	1.2590	2.5180	3.7770
10	$4.3341	$12.1783	$24.3566	$40.8690

The Pricing of Inventories

By J. Paul Suter

In the old days, every butcher shop had a number of customers who specialized on buying dog meat. They were mostly old ladies—dear old souls, highly refined, indisputably aristocratic, but rather short of cash. They usually brought Fido with them; and they were careful to point out to the butcher that, because of the delicate state of Fido's stomach, only fresh dog meat could be considered. The butcher was sympathetic. He understood. The scraps which he handed out to the old ladies were fresh, and sometimes they were more than scraps; and he was careful never to breathe his suspicion that the benefit derived by Fido from the meat was mainly aesthetic. He winked at the guileless fraud whereby the old ladies lived, and in doing so he furthered a rather odd economic paradox: to wit, that an old lady and her dog could subsist more cheaply than the same old lady without the dog.

Now, this has nothing to do directly with the pricing of inventories. Indirectly, it has quite a vital connection. It is a paradox. So are many inventories, as priced by reputed accountants at the end of each half-year. It was an expedient, on the part of the old lady. So is an inventory value, when it is twisted to what the executives of a company desire it to be and the principles of sound pricing are ignored. Above all, there is a way of making paper profits by taking inventories instead of by selling goods. In such cases, the executive who revels in the "good" statement he has thus obtained is the old lady, and surely the hoodwinked stockholders, whose profits never quite reach their hands, are in the position of expectant but disappointed Fido. One other comparison might be noted in the fact that the good old days came to an end; and just as inevitably must halcyon days vanish and stark hard times appear for any manufacturer (or, indeed, for any one else) who persists in ignoring the truth.

How, then, should an inventory be priced? "At cost or lowest market, whichever is less," answers the accountant. We cannot gainsay him, nor shall we find much ground for argument if conditions happen to indicate the market price. We may inquire,

however, as to the meaning of cost in its application to inventories.

Assuming that the costs are determined correctly (for we are not trying to cover the broad field of cost finding) we still are left in the dark as to what costs should be used. Shall they be this month's costs, or last month's, or those for the month before? "Oh, the latest costs, by all means," answers a whole school of pseudo-accountants. Very well; but here I have a thousand tons of a certain article on hand. Last month, I produced a hundred tons, and, because of the small production, it cost me the high price of fifteen dollars per ton. The month before, with a production of seventeen hundred tons, I rejoiced in the low cost per ton of eleven dollars. Shall I price my thousand tons at fifteen dollars, when I know well that nine-tenths of it was produced at eleven dollars? If I do, I shall add thirty-six hundred dollars to the paper profits for the period I am covering, without having an honest penny to show for any of it. Shall I not, rather, if I am thinking straight, price one hundred tons of my inventory at fifteen dollars, and the remainder at eleven?

I shall not be using the latest cost. I shall be using the cost of the latest production equivalent to the inventory I am pricing.

This is the simple statement of a law that has almost universal application in the pricing of inventories. Substitute the word receipts for production, and the rule is extended to cover raw materials and all other supplies that are purchased by a manufacturer instead of produced by him—always provided, of course, that the cost thus determined is not higher than the market.

It will be objected that, under some conditions, this rule would be impracticable of application. Suppose, for example, that my thousand tons represented only one item in an inventory of more than five hundred products of my manufacture, and that many of the items were equivalent to the productions of several months. The task of analyzing each item, so as to obtain a price by applying against the inventory precisely the adequate equivalent in production, would be considerable. True, such a task might be well repaid in the information it would afford as to slow-moving materials in the inventory; yet there is an easy way of avoiding so much labor. That way is to use an averaging process at the end of each month or other cost period, and to compute the cost

of goods sold by using first the balance at the beginning of a month, then enough of the current production to equal the quantity sold, if that quantity exceed the first-of-the-month's balance. Of course, if the quantity sold should be less than what was on hand at the first of the month, the cost of the entire sales would be computed at that first-of-the-month price. In the first instance, the price of the inventory at the end of the month would be the same as that of the current production. In the second instance, the inventory would consist of the entire current production, plus what was left of the balance on hand at the beginning of the month, and as a consequence the inventory price would be somewhere between that of the production and that of the previous balance.

Put abstractly, this operation sounds rather complicated. Really, it is absurdly simple. The small boy who has five green apples and then buys ten rosy-cheeked apples is proceeding according to the above practice the minute he decides that he will eat the five green apples first. Being informed of his decision, if we are told that he has twelve apples left, we know at once that this number must consist of two green and ten rosy-cheeked apples. If, however, the remainder of his stock consists of only seven apples, we are equally certain that these must all have rosy cheeks. All that we need in order to arrive at the value of his "inventory," and, incidentally, at his cost of consumption, is the price that he paid for each of the respective lots of apples.

If, to our minds, apples are apples, and we do not care to distinguish the green from the rosy-cheeked in our inventory, we shall use the same method regardless of which kind of apples is eaten first. As soon as five apples are gone, we shall consider that the value of the green fruit has been subtracted from our records; conversely, we shall carry the ten apples that are left at the cost of the ten that had rosy cheeks, and we shall not care how many of them are green.

This is not inaccuracy; it is common sense. I can not carry apples and potatoes, nor pig iron and bessemer ingots, indiscriminately in the same inventory account; but if, for merchandising purposes, my apples are alike, and it makes no difference of selling price or quality which ones I sell first, why should I trouble myself with the intimate history of each piece of fruit,

or of each bushel of potatoes, or ton of pig iron or ingots? Let me keep in separate accounts such items as should be distinct; then, once I have assigned an article to its proper group, I may safely lose sight of its identity.

Proceeding further, if I compute my manufacturing costs in monthly periods, what shall I gain by going back of the beginning of the month to analyze the make-up of my inventory items? That first-of-the-month balance necessarily stands at an average price I am justified, then, in treating it as an integral quantity. If my quantity sold equals or exceeds it, well and good—it is gone. If I sell less than the quantity at the beginning of the month, what I have left of it simply joins with my current production or receipts to produce a quantity, at an average price for the two, which will be my inventory at the end of the period.

Some manufacturers, perhaps, may consider it advisable to keep the inventory analyzed each month, and to use strictly the oldest production first, but in most concerns, especially those of any great size, such a practice will not justify the labor required to carry it through.

A hearing must be given, however, to the man who inquires, "Why use the previous balance first? Why not first use the production or the receipts?" Two answers occur, at once: one, that the use of the previous balance, before the production is touched, automatically brings the inventory down to date, so that at all times the stock on hand is priced in accordance with the latest equivalent production; the other, that this plan enables one set of clerks to compute the cost of sales on all articles where the quantity sold is less than or just equal to the previous balance, while another set of clerks is determining the cost of the current production. When the number of distinct inventory accounts runs into the hundreds, this second consideration has a good deal of weight.

It is well to note, however, that special conditions may indicate a variation from the above practice. For example, a persistently rising cost of manufacture may make it advisable to use the current production first. During the great war, one of the largest corporations in America instructed its cost accountants to use either the previous balance or the current production first, whichever was the higher in price. This practice delayed

the closing of the corporation's books, but it resulted in a conservatively priced inventory. That the precarious conditions of war time, with the probability of a declining market, justified such a course hardly any one will deny. This practice has much the same effect as would have been produced by setting up a reserve for shrinkage of inventory values. In a period when all costs were abnormally high, and when the future was even more obscure than at ordinary times, such a procedure was eminently wise.

We do not insist, then, that the previous balance must be used first; but we are willing to stand or fall by the statement that the equation

> Previous balance + production and receipts=
> Cost of sales (or of consumption) + balance at the end of the period

should be maintained at all times. This is merely another way of stating that the credits should equal the debits—which is hardly a revolutionary opinion to express. It seems fairly obvious, also, that the price of the inventory at the end of the period must be that of the previous balance or that of the production (or the receipts), or else must be a figure somewhere between the two. When we have gone still further by applying the same rule to the cost of goods sold or consumed, the trail has begun to be well defined.

The subject is not adequately covered, however, until some reference has been made to the reasons for discrepancies between actual inventories and book figures. Such shortages or overages often have a material bearing upon the price at which an inventory should be carried.

It will be found that these differences almost invariably arise from some one or some combination of the following conditions:

(1) Actual physical shortages or overages, due to theft, loss, seepage, etc.

(2) Errors in the book records, such as
- (a) Invoices taken into account twice;
- (b) Material received, but no invoices taken into account;
- (c) Inaccurate production reports;

(d) Material sold or otherwise disposed of, without being deducted from the inventory records;
(e) Mechanical errors in adding, deducting, posting to wrong accounts, posting wrong quantities, etc.
(f) Errors in the previous inventory;
(g) Errors in the current inventory.

(3) Physical shrinkages or increases in the materials inventoried, due to drying out, absorption of moisture, chemical changes, etc.

The manner of handling most of the differences arising from the above causes is self-evident, in so far as they relate to the pricing of inventories. Errors in the book records should be corrected, as a matter of course, and these corrections should be considered in finding a price for the balance. If quantities produced have been reported wrongly, it must be borne in mind that under a manufacturing cost system, any change in the number of units produced changes the cost per unit and thus affects the price of the inventory. The error may not be sufficient to warrant all the labor of reworking the costs, but any steps taken to ignore it should come about as the result of deliberate decision, and not through oversight.

Another rather obvious point, but one nevertheless that should be mentioned, is that the price of the book balance may be absolutely correct, and yet may not be the price to use on the actual inventory. Suppose—to quote one of several conditions that might result in this seeming paradox—that, though the book balance of some certain commodity is equivalent to, say, two months' production, a physical inventory discloses that, owing to a genuine but hitherto undiscovered shortage, the quantity actually on hand is less than that produced in the latest month. Under the rule usually followed of "using the previous balance first," the inventory will be carried at the price of the production for the latest month; and yet the book balance should not be, and probably will not be, at that price.

Still another special condition may be brought about by actual physical shrinkage in materials inventoried. It is perfectly possible that I may have on hand in one inventory a thousand pounds of some fluctuating substance, and that, without my having used or otherwise disposed of any of it, I may find only

nine hundred and fifty pounds of that substance on hand in the next inventory, the weight reduction having been caused by natural drying out of the material. Clearly, the smaller quantity is worth as much to me in total as the larger—in fact, the cost of the drying process may make it worth more. Yet, to one unacquainted with the peculiar conditions in my industry, I shall have achieved somewhat the same economic paradox as did the old lady and her dog.

Indeed, I may go that one better. I may have in my inventory a valuation with no quantity whatever against it, and still not be outlawed. This condition comes about sometimes where expense of a given kind is applied to certain materials, while other like materials go directly into the production without the necessity for any such expense. In certain industries much cost bookkeeping is saved by carrying this "inventory expense," as it may be termed, in a different account from the materials to which it applies, those materials being combined in the accounts with others of like nature that are used without special treatment. As the specially treated materials are used, the expense applicable to them is written off to its proper production channel. This is somewhat of a side lane, which does not call for more than passing mention, but it illustrates an interesting exception to the usual inventory procedure.

A good many other side lanes might be entered, and crooked by-paths, too, but in the end they would lead to the same conclusion, which is, that the pricing of inventories is a matter for common sense. It is a matter, also, in which the most rigid honesty pays best in the end—not commercial and financial honesty only (if indeed they differ from other sorts) but that highest kind of intellectual honesty which compels a man to face the facts squarely and write them down truthfully for what they are.

Computation of Coupon Values

By Arthur S. Little

During the sound money campaign of 1896 there were distributed by the Republican national committee and other organizations, countless tons of educational literature; most of which was written or inspired by the brightest and ablest financiers and economists of the country. Among the numerous excellent tracts and pamphlets of this nature that came to my notice that which impressed me the most deeply, and I considered the best of all, was one with an artistically executed colored border of appropriately emblematical serpents, wherein the author urged the early and permanent retirement of the $346,000,000 "greenbacks," that were then and are still outstanding, and most ably defended the proposition that they had already cost the country many times what they had saved in interest on a funded loan, and that the fundamental idea upon which they were based, viz, that monetary wealth can be created with printing presses and a government's fiat, was the real cause of all the troubles from which we were then suffering and the evils with which we were menaced.

In a somewhat similar manner I have often thought, and do still think, that nearly all, if not all, the ignorance and misunderstanding that exist, with the resultant mischievously defective accountancy of transactions in and ownership of the ordinary type of investment—bonds of solvent municipalities and corporations—are due entirely to the fallacious belief that the coupons attached to such bonds are or represent or at any rate have something to do with interest on the capital that was borrowed by the issuer and invested by the purchaser and are therefore in an entirely different category from what is commonly designated as the par or face value, which in reality is merely coupon 41, 81 or 101, as the case may be, and is usually for from 50 to 33⅓ times as large an amount as all the others that preceded it, and payable on the same day as 40, 80 or 100. (This assertion refers solely to abstract accounting principles underlying actuarial work in transactions in or the distribution of earnings from prompt-paying

investment securities. I am well aware that, in the present state of enlightenment at least, a sharp distinction may exist under unusual conditions, e. g. bond calls, foreclosures, enforcement of guarantees, action by protective committees, etc.)

My views upon this subject are well covered in the article I contributed to this magazine in September, 1915, *The Tyranny of the Engraver* and on the present occasion I propose to assail merely the widely entertained belief that interest accrues on a bond between coupon dates on the par of the bond at a rate per annum obtained by dividing the sum of any two interest coupons attached thereto by said par—impulse having been afforded by the following:

"........interest accrued on bonds purchased is not a part of the cost of the bonds, but is a temporary advance to be reimbursed from the current coupons when they become due. The entry, therefore, is a charge to investments at whatever is paid for the bonds themselves, and to interest for the amount of the accrued interest paid."—The Journal of Accountancy, October, 1918, p. 318.

To begin, let us try a simple case wherein we assume that the interest accrued on bonds purchased is a part of the cost of the bonds—in other words, that the investor invests what he pays out—and see how it works. A bargain is struck whereby \$1,000,000 7s, with 1¾ years to run, are sold upon terms to net the investor exactly 2½% semi-annual interest for the entire time. As no suitable bond tables happen to be available, the proper amount to be paid is ascertained by the same method that would have been employed on a coupon date, viz, by finding the present worth of the post-due negotiable instruments that constitute the bond, as follows:

$$\frac{\$1{,}000{,}000}{(1.0125)^{3.5}} + \frac{\$35{,}000}{(1.0125)^{3.5}} + \frac{\$35{,}000}{(1.0125)^{2.5}} + \frac{\$35{,}000}{(1.0125)^{1.5}} + \frac{\$35{,}000}{(1.0125)^{.5}} = \$1{,}094{,}030.55.$$

which sum the investor pays for the bonds and puts on his books as the amount of the investment	\$1,094,030.55
Three months later he charges the investment and credits his interest account with three months' semi-annual interest at 2½% (.623059%)	6,816.46
	\$1,100,847.01

The same day the investment is credited and cash charged with the proceeds of a coupon that is collected..........	35,000.00
New investment value	$1,065,847.01
Six months later a half-year's interest is charged (1.25% of balance)	13,323.09
	$1,079,170.10
Less coupon	35,000.00
	$1,044,170.10
	13,052.13
	$1,057,222.23
	35,000.00
	$1,022,222.23
	12,777.78
Investment value on day bond and last coupon are due........	$1,035,000.01

It looks very much, therefore, as though this investor invested what he paid out, viz, $1,094,030.55;

that it was all repaid to him within 1¾ years;

and that during that time he earned 2½% semi-annual interest on every penny that he invested.

Simple as this is, very few seem to appreciate the importance and indispensability of sound accountancy, through which this interest was earned, obtained, secured, collected, received, etc. If this investor had followed the usual custom of relying exclusively upon a pair of scissors for the collection of the income specified, he would not have earned interest in any sense of the word. He would simply have made a profit of $45,969.45 resulting from paying $1,094,030.55 for the bond and coupons and later retailing them for $1,140,000. But by correct accounting practice the interest for, say, the first three months, was collected and made available for investing a balance-sheet with gratifying qualities, being spent, handed over to living heirs, etc., through an exceedingly important journal entry whereby interest account was credited and this investment charged with the previously ascertained correct amount of $6,816.46. The immediate effect, it should be noted, is a material inflation of the book value of the investment, and, as far as the question of the soundness of such

inflation is conecrned, it is totally immaterial how soon it will be wholly or partly undone by cash deposits made by this investment for its credit. For example, in the case of bonds with annual coupons when the interest is taken at the usual semi-annual interval, the inflated value is carried for six months. The important point is that every one of these charges made to this investment will in due course be paid in full in cash, together with compound interest on balances; hence the asset represented by the swollen account is as good as it could possibly be and is comparable to a well secured broker's account, with this favorable distinction: that definite foreknowledge exists regarding amounts and dates of the deposits that are eventually to extinguish the account.

I am still decidedly of the opinion that the foregoing is the only correct aspect of the subject of income from bonds and similar securities, and that, until such doctrine is duly recognized and observed, very little progress will be made in the accountancy of investment of other people's money.

But, according to the dictum above quoted, $17,500 of the $1,094,030.55 is a temporary advance, to be tucked away for the next 90 days in the inanimate unproductive interest account, while whatever is paid for the bonds themselves—in this case presumably $1,094,030.55—$17,500=$1,076,530.55—is a charge to investments.

After getting started with such expert advice, therefore, the bank or trust officer who bought these bonds (very likely with the money of others) is hardly to be blamed for crediting interest account with $35,000 three months later, and thereupon consulting the ticker or awaiting the bullying edict of some politician at Harrisburg or Montpelier in order to ascertain how much of the book value he should write off.

Except in rare cases which have no bearing on the subject under consideration, bonds are bought only for the income they will yield. When the latter is what is agreed upon between the buyer and seller, what is given for the bonds is, as in the example just cited, an ascertained sum of money, which in turn is the present worth of the various negotiable instruments for fixed sums payable at specified dates that constitute the bond. When, as is frequently the case, the bonds are bought at a price—e. g. 102⅞

and interest, par and interest, etc.—a sum of money is paid for a collection of negotiable instruments amounting to what they do and maturing when they do, and the rate of interest that will be earned may be ascertained later to any degree of precision desired. The only difference, therefore, between bonds sold "on a basis" and "at a price" is merely that the unknown quantity has been shifted to another element of the equation; but in either case the important fact remains that the sum of money paid for the bonds is the present worth of the bonds and coupons at some fixed rate. Therefore, while there is nothing immoral or unsound in the fact that a dealer or holder sells and an investor buys $100,000 6s, with 49.7778 years to run, at 129¾ and accrued interest—the latter acting on the honest conviction that the bonds are a bargain at that price—nevertheless what he really does is to pay $131,083.33 for $400,000 non-interest-bearing notes maturing at various dates during the next 50 years, knowing from experience and knowledge acquired from consulting basis books that such a set of notes for that amount and maturing as they do, if bought today for a sum of money indicated by taking 129.75% of the face value of the largest and last maturing note, plus 80/180 of the first maturing note, would yield a rate of income that would be satisfactory to him, to wit, 4½%.

The foregoing quotation is found in the *Students' Department* and is part of the reply to an inquirer who has bought bonds at par and interest. No figures are given as to rates, amounts and dates; so let us assume, for example, that the purchase consisted of $100,000 annual 7s with nine months to run. The bill of the bond dealer of course reads:

$100,000 A., B. and C. 7s at par	$100,000.00
Accrued interest to date, 90 days at 7%	1,750.00
	$101,750.00

which is as correct as it can be as far as business methods are concerned. But in the name of sound accountancy I certainly protest against the further dissemination in the columns of this magazine of such puerile and pernicious doctrines as:

> that of the $101,750 that this investor laid out, $100,000 only was an investment; $1,750 thereof being a temporary advance to be charged up elsewhere.

This man gave \$101,750 for \$107,000 to be received nine months hence, whereby he earns 6.87907% simple interest or 6.8217628% if reduced to standard interest with semi-annual compounding.

The amount of unity at 6% compounded semi-annually is:

Years	*Amount*
0	\$1.00
½	1.03
1	1.0609
1½	1.092727, etc.

Upon attempting to find, by interpolation, to what this \$1.00 has grown at the end of three months we obtain \$1.01488916, which, if correct, should be $(1.03)^{\frac{1}{2}}$. It is correct—the square root of 1.03 to 12 places being 1.01488915651. Similar success is obtained in attempting to find the present worth of unity for ¼, ¾, 1¼, etc. years, from which we are warranted in concluding that we may safely depend upon interpolation to take care of semi-annual compounding for periods that are not multiples of the half-year.

If the values for, say, ½ to 50 years shown in the tables for this 7% bond to yield 2½%, be investigated, either mathematically or mechanically (by proper plotting on profile paper), it will be found that they constitute a series, suggesting that interpolation may be employed. The tables, which all parties (except the misguided members of the reinvestment school) acknowledge to be correct, show 106.58 for 1½ years; 108.73 for 2 years; 110.84 for 2½, etc.; hence it would seem that the value for 1¾ years must lie between those for 1½ and 2 years. Now, while this 2-year value of 108.73 is the present worth at 1¼% per half-year, compound discount, of the parent bond and four coupons of \$35,000 each, the value for 1¾ years is also the present worth of the same bond and four coupons; and as they are now all payable 3 months sooner, their present worth is of course greater. In fact, as we have already noted, it is \$1,094,030.55. But by the application of interpolation we obtain \$1,076,584.90 as a bond value for 1¾ years, differing from that obtained by the present-worth process, which stood the test of being multiplied down to maturity, to the extent of \$17,445.65. As the bond at 1¾ and at 2 years has four coupons thereon and only three at 1½ years,

this discrepancy is undoubtedly connected with the $35,000 coupon that disappears when the 1½ year stage is reached; moreover it is suggestively close to the $17,500 accrued interest that is supposed to be on the bond mid-way between coupon dates. But this $17,445.65 is not 3 months' growth on $1,000,000 @ 7%, as that, with semi-annual compounding, would be only $17,349.50. Still less is it the present worth of the maturing coupon at either 2½% or 7%; nor is it 3 months' interest at either of these rates on the 2-year value. As this $17,445.65 does not appear to be "interest" obtainable through any plausible elements at hand, let us leave it for the time being and investigate at another period when the bond had longer to run. At 19¾ years the present worth of the bond and 40 coupons is $1,715,478.26 and the interpolated value between 19½ and 20 years is $1,698,032.61; yielding the same discrepancy as before, notwithstanding that the premium is about 62 points greater, and, what is still more significant, the first difference employed in interpolating is decidedly less. Further experiments at ¼, 9¼, 15¾, etc., years yield this same constant discrepancy—hence we are justified in concluding that it is not a fortuitous odd amount, but on the contrary a constant quantity, dependent upon some fixed law and possessing interesting and important significance.

We now experiment at another income rate, say 3%, and find that the accrued interest has shrunk to $17,434.85.

At 3½% it is $17,424.10
at 4%, $17.413.36
and at 4½%, $17.402.65.

Further experiment is unnecessary, as it is now plainly apparent of what this discrepancy between the bond values obtained respectively by interpolation and the present-worth plan consists. It is an imaginary or theoretical coupon. All the tabular bond values that were employed in interpolating were for the occasion when the current coupon had just matured and been detached and paid—hence the same situation must exist with regard to a value for an intervening occasion when such value has been obtained in accordance with the law of the series of values at regular coupon dates, as given in the tables.

In order to view the subject from another standpoint, let us assume that this issue of 7s that we have been considering was

originally sold by a railroad company on a 7% basis (in other words, at par) and that during the last 30 years or so the bonds have fluctuated considerably in the market, due to changes in money rates and a material improvement in the road's credit, at times selling as high as a 2½% basis. Let us assume further that the various bondholders get together and for certain good reasons of their own request the railroad to take up the original bonds and issue in lieu thereof bonds similar in all respects except with quarterly instead of semi-annual coupons. The bondholders offer to bear the cost of engraving, and the railroad officers assent to the proposition on the condition that it be carried out in a strictly equitable manner in accordance with scientific actuarial principles—in other words, that the two quarterly coupons shall constitute a true equivalent for the original semi-annual coupon. As all existing conditions are to remain undisturbed except the frequency of the payment, it is hastily and not unnaturally concluded by all parties concerned that the proposed change is a very simple one—nevertheless it soon develops that the idea is altogether impracticable and will have to be abandoned. The railroad officers find that the loan is costing 7% semi-annually—hence the only quarterly coupon that spells equity to them is one for 1.73495%. In a similar manner, one of the bondholders who bought at 124 to net 4% requires a coupon for 1.741336%. Another bondholder who bought at 194 to yield 2½% can only accept a coupon for 1.744565%, etc.; in short, there would be required as many different sized quarterly coupons as there were income bases upon which the various bondholders had made their respective purchases.

This phase of bond value phenomena is somewhat similar to a rainbow that is observed by various scattered inhabitants of a large city. The essentials, consisting of one sun shining behind the observers and one shower in front of them, are common and constant; nevertheless each observer beholds his own special bow with its individual particular light rays, angular magnitude and position upon the celestial sphere.

In the article, *The Tyranny,* I laid down the doctrine that when bonds were held as an investment, the debtor owing to the investor was "this investment," personified, to which certain critics have objected, claiming that the only person or thing owing any-

thing to the investor was the individual, municipality or corporation that had issued the bonds and coupons he had bought and would pay them when they became due. A new line of thought is certainly afforded by the foregoing investigation. The seemingly anomalous situation, whereby the railroad owes $1,000. per bond, costing 7% interest and on the same day one individual owning one of the self-same bonds has $1,808.46 owing to him earning 2½% interest, is attributable to the indefinite amount of trading that has in the meanwhile taken place in the bonds of this issue. Some of the original purchasers have no doubt made handsome profits in addition to 7% interest on their investment, and other transient holders may have incurred heavy losses through having bought and sold on unwisely selected occasions, but this is of no concern whatever to the railroad, which at all times owed a uniform sum to this loan at 7% interest; and, although during the life of the bonds millions of dollars might be made and lost through change of ownership, the railroad company is not concerned in the slightest degree and would be no worse nor better off for being in total ignorance of the existence of all these changes in ownership and fluctuations in price. In a similar manner, an investor who buys at 180.84 when the bonds have 24 years to run is not concerned in the least with what the railroad originally received, or what has been made or lost by those who have owned the bonds prior to his purchase. All he knows or needs to know is that he has invested $1,808.46, $18,084.58, $180,-845.83, etc., for 24 years, and that, attended by substantial and steadily increasing semi-annual payments on principal he will earn 2½% semi-annual interest on what he has invested—provided he keeps books and makes proper entries at least as frequently as whenever a coupon is collected.

The method whereby the amount of an equivalent shorter coupon was found as a "discrepancy" is a clumsy, roundabout process; and it is now in order to devise a formula whereby direct calculation may be made for any frequency interval. Suppose a case where the coupons are to be increased from two to six. Denoting

Actual coupon by C
Short coupon by c
Semi-annual ratio by R

60-day ratio by r
Any semi-annual value by V
Value, ex-coupon, 2, 4 and 6 months thereafter by V′, V″ and V‴
then:

(1) $VR - C = V'''$

(2) $Vr - c = V'$

(3) $Vr^2 - rc - c = V''$

(4) $Vr^3 - rc^2 - rc - c = V'''$

As $r^3 = R$, we have from equations (1) and (4)

$$C = r^2c + rc + c$$

from which it will be found that $c = \dfrac{C\,(r - 1)}{(R - 1)}$ or

$$\text{Odd coupon} = \frac{(\text{real semi-annual coupon})\ (\text{odd rate})}{\text{semi-annual rate}}$$

Example: A trust company is the owner of a $100,000. 4% loan that was bought some years before at a price to yield 5%. The maker of the loan desires to take up the semi-annual "interest notes" originally uttered and to substitute a new set payable at 45-day intervals, to which the trust company assents. Required, the amount of the new coupons.

$$\frac{\$2{,}000. \times .00619225}{.025} = \$495.38.$$

PROOF

Value at, say, 17½ years	$88,427.42
Forty-five days' interest at 5%	547.56
Less coupon	*495.38*
	$88,479.60
	547.89
	495.38
	$88,532.11
	548.21
	495.38
	$88,584.94
	548.54
	495.38
Book value for 17 years, tallying with bond tables	**$88,638.10**

In view, therefore, of all the loose talk that has been and still is heard in various circles (as well as sundry standard tables and text-books) about "bonds with interest payable quarterly"; "bonds bearing interest at the rate of"; "total cash interest"; "surplus interest"; "deficient interest," etc., it is indeed refreshing to turn to an unpretentious little text-book, *Interest and Bond Values* published at Toronto in 1912 by M. A. Mackenzie of that city, and find nothing but such phrases as:

"the ability of the issuing corporation to earn the annual coupon payments."

"a bond due 20 years hence and bearing half-yearly coupons at 5%."

"had the bond borne coupons at 4½%."

"had the coupons been for $225. each .... the coupons being only for $200. each."

One great difficulty with which conscientious school teachers have to contend is the disposition on the part of arithmetic pupils to ignore entirely the philosophical aspects of the various problems given them—working solely to get the answer, and, when that is accomplished, dismissing the matter from their minds as a closed incident. On account of the numerous coincidences that may and do arise in mathematics, it is quite probable that many a correct answer has been obtained by a dangerously incorrect process. As an example, a scholar called upon to find the area of a circle tries the experiment of multiplying the diameter into 3.14159 and taking half of the product. If the given diameter happens to be 2, the correct result that he obtains is no index to his understanding of that phase of mensuration.

This state of affairs is not confined entirely to school children—it is found occasionally among grown-ups. For instance, every single one of the thousands of semi-annual bond values published by one author are perfectly correct numerically, and yet the method by which they were calculated, as well as the philosophical interpretation and application, is as wrong as anything can be. Furthermore, that author's really (numerically) accurate values are, by his own admission, inaccurate, or at least in violation of what he considered correct principles, and were put out for commercial purposes to supply a popular demand which he honestly, even if erroneously, believed was founded upon error, which he appeared to be unable to stamp out. To be specific: if called upon to furnish a value for $1,000. twelve year 4s to yield 10% he would have

given the correct figures of $586.04, but his interpretation and application would have been substantially as follows:

In order to fulfill the conditions it is necessary:

(a) That you obtain $29.30 in actual cash every 6 months available for spending purposes.

(b) That your net capital 12 years hence when the bond matures be the same as at present, viz, $586.04.

Six months hence, at which time you are entitled to $29.30 in cash, you will obtain $20. from the coupon you collect. The remaining $9.30 you must borrow somewhere for 11½ years at 10% interest, compounded semi-annually. Twelve months hence you must borrow another $9.30 at the same rate for 11 years, etc. When the bond matures you will find that your total indebtedness on the 23 loans is $384.66, and after paying that, as well as paying yourself the last $29.30, you will have left your original capital of $586.04.

An hour later perhaps there might be another call for a value for some 40-year 1s to yield 2%, and the problem would be handled in a similar manner except that the figures given would contemplate that all this future borrowing would be done at the rate of 2%.

It is to the credit of the reinvestmentists, however, that they were logical enough to see the absurdity into which they were thus led, and took the ground that tables intended for general use, in order to possess any utility, must provide for borrowing or reinvesting at some sane average rate. In fact, two authors have gone so far as to bring out a comprehensive set of tables of this character—both adopting the rate of 4%. For 12-year 4s to yield 10%, 63.799 is given, instead of the correct value of 58.604 as shown above.

All this is of course as absurd as it can be, being one result of the fallacy that there is no interest and that there can be no interest unless and until a cash payment in actual bills or coin takes place; in short, it is going the limit in refusing to acknowledge the efficacy or even the existence of accountancy, and possesses but one merit, to wit, it assumes that the investment is the sum of money which the investor pays for the bond.

Returning to the subject of obtaining correct results by incorrect, or at least philosophically unsound, methods, let us assume

that a corporation offers for sale an issue of $100,000 7s, to be dated May 1, 1920, due May 1, 1925, and finally accepts the best bid received, viz, a 7% basis. If delivery is made on May 1st the buyer pays $100,000 for his purchase, which is correct. But he, as well as many other people, are firmly of the opinion that he bought the bonds at par or their face value with no interest accrued, which is not correct. A closer scrutiny of what he bought reveals that it consisted of eleven different notes or bonds maturing serially from ½ to 5 years, with a total face value of $135,000 and an average life of 4.42 years. As all these notes (with one exception) have the same par value and (with one exception again) have different lengths of time to run, and yet are to yield the purchaser a uniform rate of interest, it is obvious that each one must have a different present worth, and the proper price for each note is found by a trustworthy true discount table to be:

Note	Years until due	Par value	Present worth	Discount
1	½	$ 3,500	$ 3,381.64	$ 118.36
2	1	3,500	3,267.29	232.71
3	1½	3,500	3,156.80	343.20
4	2	3,500	3,050.05	449.95
5	2½	3,500	2,946.91	553.09
6	3	3,500	2,847.25	652.75
7	3½	3,500	2,750.97	749.03
8	4	3,500	2,657.94	842.06
9	4½	3,500	2,568.06	931.94
10	5	3,500	2,481.22	1,018.78
11	5	100,000	70,891.88	29,108.12
		$135,000	$100,000.01	$34,999.99

The answer, $100,000, is the same in either case, but there is considerable (and decidedly important) philosophical distinction between the popular myth that one bond for $100,000, bearing interest at the rate of 7%, was bought at par and the actual fact that eleven bonds, aggregating $135,000, that do not, or at least need not so much as mention the word interest, were bought at an average discount of 25.93%.

Suppose that the company did not obtain an offer for the bonds until June 1st, when they were sold on the same terms, viz, a 7% basis. The company would demand, and no doubt obtain:

Par	$100,000.00
One month's accrued interest at 7%.............	583.33
	$100,583.33

The purchaser might object to the $583.33 on the grounds that it was obtained by monthly instead of semi-annual compounding. His claim, being manifestly just, is allowed, and the figures are amended to read $100,575.00, which are as incorrect as they can be except numerically. Five hundred and seventy-five dollars interest! How can there be any interest when nothing has as yet been borrowed or lent? During the last 30 days no change whatever has taken place in what is being bought and sold. It still consists of 11 notes aggregating $135.000 maturing $3,500. November 1, 1920; $3,500. May 1, 1921, etc., and the rate of interest to be earned is still 7% semi-annually. It is in the calendar that the change has occurred. The first note will mature and be paid in 5 months, the second in 11 months, etc.; hence the present worth of each is now greater, and by proper calculation is found to be:

Present worth	Discount
$ 3,401.08	$ 98.92
3,286.08	213.92
3,174.95	325.05
3,067.59	432.41
2,963.85	536.15
2,863.62	636.38
2,766.79	733.21
2,673.22	826.78
2,582.83	917.17
2,495.49	1,004.51
71,299.51	28,700.49
$100,575.01	$34,424.99

Now that an investment has been made and an indebtedness incurred, matters are changed, and interest begins to accrue in earnest at the rate per $100,000. of $19.11 daily, $191.30 every 10 days, $287.09 every 15 days, etc. It is, however, accruing, not on the bonds, as is generally supposed, but on the $100,575.00 which the company borrowed and the investor lent. Assuming, for instance, that both parties see fit to make entries in interest account at monthly intervals, then their correctly kept books will show the

following amounts respectively owing to/owed by this loan investment:

July 1..................	$101,153.31
August 1...............	101,734.95
September 1............	102,319.93
October 1..............	102,908.27
November 1............	103,500.00

After the coupon is paid the balance is pulled down to $100,000, and during each ensuing six months throughout the life of the loan the balance will work up to $103,500. and then fall to $100,000. in exactly the same manner; but it is somewhat rash to assert or take for granted that one of the notes, as it matures, is interest on the original investment simply because it happens to be for the same sum of money that represents interest earned up to that time.

This will work very well so long as all the coupons are for the same amount, mature at regular intervals, and date from and finally mature with the bonds themselves, which is of course true in an overwhelming majority of cases, and yet does not need to be ever the case—at least as far as providing suitable and satisfactory loan investment at some fixed interest rate is concerned.

In 1878 a small issue of bonds was put out by the Brunswick & Chillicothe R. R. Co. (a part of the Wabash system) with coupons as follows: 2% for 6 years; 3% for 19 years and 4% for the remaining 3 years, which must have proven hard sledding for the par-worshippers of those days, to whom was yet unrevealed even the contemptible lazy-man's makeshift known as the pro-rata method and who, as far as I know, had nothing to turn to for help except a small pioneer edition of 4-place bond values designated by its author as "stock tables."

The normal logical starting point when the security is supposedly unquestioned is 0% basis. In a case of $1,000. 20-year 6s for instance this would be $2,200., which is the true par. If bought at this price there is no preponderance of the amount repaid over the amount invested; the ratio of increase for any epoch is 1.00; the interest $0.00 and time immaterial. If, however, the bond be bought for $2,199.99, interest amounting in the aggregate to 1 cent will be earned in the 20 years, and (at the expense of considerable labor) the average semi-annual rate may be ascertained

with the utmost precision; and, provided fractions of cents are duly accounted for, the investment can be carried along and made to stand at $1,000. at maturity in exactly the same manner and with the same accuracy as if the bond had been bought to yield say 5%. As the amount paid for the investment decreases the effective rate of interest increases and finally becomes infinitely large when the bond is bought for $0.00. Taking 1 cent as the minimum variation that may be made in a sum of money, it follows that there are 220,000 different income bases ranging from 0% to infinity% upon which this $1,000. bond may be purchased. For $10,000 worth there are 2,200,000; for $100,000 worth there are 22,000,000, etc. As might be expected from our familiarity with the laws of chance, it happens that a single one of these thousands or millions of income bases possesses special unique properties, just as .31622777 + is the reciprocal of 3.1622777 + or .137128857 is the log. of 1.37128857, but to seize on this "punctual interest basis" as an ideal standard and consider everything else between zero and infinity as distortions thereof through the operations of premiums and discounts, instead of regarding it as a special incidental case characterized by interesting and extraordinary properties, is in my opinion quite as bad as it would be for astronomers to consider the orbits of all the planets as circles of varying degrees of distortedness.

The professional accountants of the country should look upon the subject of investment accountancy with a somewhat broader vision than a pawnbroker or a drudging discount clerk in a commercial bank; awaken to a realization of the fact that something besides a pair of shears and a ticker is required to collect and distribute the income from the bonds owned by a trust estate or insurance company, or ascertain the interest charges, outstanding indebtedness and surplus of a modern corporation; learn that the effulgent halo that is supposed to encircle the sacred brow of par is no more existent than the pink elephants and green-tailed monkeys seen by inmates of inebriate wards—in short, not allow themselves to be influenced and guided entirely in their professional conduct by the customs, traditions and precepts of a Broad street curb specialist or some politician at Augusta or Lansing.

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EDITORIAL

Misuse of Accountants' Reports

There has been much comment because prospectuses and other literature issued prior to the flotation of securities have so frequently failed to indicate whether or not the affairs of the companies concerned have been subjected to independent investigation. In other cases when audits have been made there have been only incomplete and often misleading summaries of the accountants' figures and findings.

In the interest of all concerned it should be a fixed rule that securities in which the public is asked to invest should be supported by statements showing the results of impartial examination conducted by reputable practitioners.

The ideal condition would be the publication of the accountant's complete certificate, but in no case should there be any condensation which eliminates essential facts.

Often in these days one reads that John Doe, president of the company, supplies the following information. Of course, presumably, John Doe is an honest and honorable man, but as an interested party he cannot be completely impartial. The element of self-interest therefore will incline him to magnify the merits of the proposition and to deal gently with its demerits.

Frankly, we imagine that many investors must hesitate a long while when they find that an offering is compelled to rely upon the ex parte assertions of company officers. In particular an industrial concern which does not present an impartial reflection of its financial condition should never receive the encouragement of public subscription to securities.

Stock exchanges could do much, if they would, to bring about a needed reform following the lines of the English companies' act or similar legislation in force in Canada and other British possessions.

It is not sufficient, however, that there be an independent audit, unless the public is sure that the accountant's findings are truthfully conveyed to possible investors. It is really worse than no report at all if vital figures are omitted or qualifications in the certificate are suppressed.

Incidentally a duty rests upon accountants to require clients and their bankers to make a fair use of their reports or certificates. Unless they do this they are morally responsible to the public for any misrepresentation in regard to which they do not exhaust every corrective remedy.

As an illustration of the use of an accountant's name in a way that might mislead the public, it is instructive to consider a recent prospectus, one paragraph of which reads somewhat as follows:

"Our accountants are John Smith & Son of Boston, who have audited our books for the last two years. All statements given, except for the year 1919, of which an audit is about to be made, are supplied by public accountants of high standing employed by us prior to our association with John Smith & Son."

In other words, the company leads the public to believe that its affairs have been audited by John Smith & Son, and that a clean bill of health has been given. As a matter of fact, the paragraph quoted means absolutely nothing except that John Smith & Son have conducted an audit—and it is quite possible that the accounting firm found it necessary to damn the whole financial condition of the company. There is no copy of the certificate, and the figures which are given are apparently in no wise connected with the accountants' investigation.

An unthinking prospective investor glancing over the prospectus to which we refer might be forgiven if he came to the conclusion that the financial affairs of the company had been investigated and their soundness endorsed by the well-known and reputable firm of John Smith & Son.

This is a misuse of the accounting profession against which the entire membership should vehemently protest.

Federal Registration of Accountants

Three or four years ago Edward N. Hurley, then chairman of the federal trade commission, propounded a scheme for the registration of accountants throughout the country under a federal regulation.

The idea met with considerable favor, particularly among government departments, and some members of the accounting profession who gave the matter only a superficial consideration expressed the thought that the plan had merit.

The American Institute of Accountants, through its committee on federal legislation, made emphatic protest against anything in the nature of federal regulation and succeeded in convincing the sponsors of the movement that it would be entirely undesirable.

Quite lately, however, there has been a recrudescence of the registration idea. There have been so many so-called tax experts and violations of the canons of decency that we fear there may be honest souls who may be convinced that something in the nature of federal regulation is imperative. Consequently, it may not be out of place to point out some of the essential fallacies of the idea.

If there were federal registration or regulation in any other form it might not be undesirable, provided the selection of the men and women to be registered were entirely detached from politics. For example, if the selection of qualified practitioners were to rest with the American Institute of Accountants and C. P. A. boards of states in which C. P. A. legislation is properly administered, no great harm might accrue.

Can anyone acquainted with official Washington imagine a bureau entrusted with the registration of accountants becoming anything more than a meeting place for congressmen and other politicians whose constituents desired registration? Anyone familiar with the way in which postmasterships are handed out may form a slight but inadequate idea of the political pressure which would bear upon the registrar of accountants. Every congressman from the back woods and the plains would have a constantly increasing number of friends "back home" seeking the prestige of federal registration. Probably many men who had never even been bookkeepers would shortly be registered as federal accountants, and it might easily follow that states in which there

was practically no accounting work to be done would boast a register of accountants coextensive with the census.

It is all very well to say that registration could be carried out without consideration of the requests of congressmen and others, but no one who is familiar with official facts would believe such a statement.

The accounting profession is quite capable of managing its own affairs free from the dictates of politicians. The American Institute of Accountants was formed chiefly because the issuance of certified public accountant certificates had come so largely under the control of political powers. Anything in the nature of federal regulation would be reverting not only to conditions which preceded the formation of the institute, but to something infinitely worse.

What seems to us a far more desirable plan would be federal registration of incompetent accountants. If the government would make note of slip-shod, inefficient and fraudulent work done by persons posing as accountants or tax advisors and would take some means to protect the public against charlatans, it would be accomplishing something. Congressmen would not be so anxious to seek registration of their friends on such a list.

Income-Tax Department

As was confidently expected by every accountant, an extension of time for filing final returns of corporations was granted by the commissioner of internal revenue before the expiration of the statutory limit on March 15th.

The unfortunate feature of the case was, however, that no one could be absolutely sure that an extension would be granted, and accordingly accountants worked under a degree of pressure which was almost unbearable. There seems to be no valid reason why inevitable extensions cannot be announced in time to afford some relief to accountants and others who are doing their utmost to prepare returns, on the basis of which the government is to derive its principal income.

The extension was in the form of an authorization to collectors of internal revenue to accept tentative returns from corporations on or before March 15th, to be followed by final returns not later than May 15th.

The permission was granted under date of March 4th in the form of It. Mim. 2420.

Extension until May 15, 1920, of the final date for filing corporation returns, form 1120, for the calendar year 1919

To collectors of internal revenue:

In view of the fact that considerable difficulty is being experienced by corporations and their representatives in the preparation of income-tax returns for the year 1919, collectors of internal revenue are hereby authorized to accept tentative corporation returns for the calendar year 1919 on or before March 15, 1920. Each return must be accompanied by at least one-fourth of the estimated amount of tax due, together with a statement setting forth the reason why the return cannot be completed within the prescribed time, and a formal request for the extension. Any deficiency in the first instalment will bear interest at the rate of six per cent per annum.

An extension of time is hereby granted to corporations in such cases to file completed returns on or before May 15, 1920. The tentative return submitted in accordance with the foregoing should be on form 1120, on which should be written plainly across the face "tentative return." Only the estimated amount of tax due need be stated.

Tentative returns filed under this authority will be handled in collectors' offices in the manner prescribed for the handling of similar returns last year.

A further extension of time within which to file returns will not be granted except in extraordinary cases and upon proper application to the commissioner of internal revenue, setting forth the reasons why the return cannot be completed.

It. Mim. 2383 is modified accordingly.

Since the March issue of The Journal of Accountancy was published there have been only three treasury rulings relative to income tax, one dealing with estates and trusts which cannot be treated as units, one with returns from non-resident alien beneficiaries, and one with compensation received in something other than money.

(T. D. 2987, March 1, 1920)

Income Tax

Adding article 347 to regulations No. 45, dealing with estates and trusts which cannot be treated as a unit

Regulations No. 45 are amended by adding thereto article 347 to read as follows:

ART. 347. *Estates and trusts which cannot be treated as a unit.*—In the case of certain estates and trusts it is recognized that the estate or trust cannot be treated as a unit for income-tax purposes, and may represent an aggregate of distinct interests to all of which the fiduciaries are responsible. In such cases the procedure stated in this article should govern. The following are recognized as cases which cannot be treated as a unit, and must, therefore, be governed by this article: (*a*) When there is income distributable periodically and also income which is to be accumulated in trust, held for future distribution, or added to the corpus; (*b*) when there is income distributable periodically and also income (according to the federal income-tax statutes and regulations) which is not distributable periodically under State law, e. g., gains from sale of capital assets, stock dividends; (*c*) when there is income distributable periodically and deductions (according to federal income-tax statutes and regulations) which are not deductible under state law from the distributable income, e. g., losses from the sale of capital assets, depletion, depreciation.

In ascertaining whether an estate or trust comes within any one of the cases just enumerated, the provisions of the federal statutes and regulations —rather than the provisions of the will or trust and the provisions of state laws—shall determine what items constitute taxable gross income or allowable deductions; the provisions of the will or trust and of state laws shall determine the allocation of items of gross income or deduction; that is, to which of the different interests making up the whole such items shall be charged or allowed. In cases which are to be treated under this article, the items of gross income and deduction as determined by the federal income-tax statutes and regulations must be scrutinized and classified in accordance with the provisions of the will or trust or rules of local law into two classes, one subject to the procedure specified in subdivision (*c*) of section 219, and the other to the procedure specified in subdivision (*d*) of section 219. The result will be that the beneficiary to whom income is to be distributed periodically must include in computing his net income the amount actually distributable to him (except exempt income), even though the aggregate of the distributive shares should be larger than the net income of the estate or trust computed as a unit. Any gain, profit or income which is not periodically distributable must be included in computing the net income of the estate or trust so that the fiduciary will pay the tax upon any excess of the net income of the estate or trust computed as a unit over the aggregate distributive shares.

For example, a trust is created, the income of which is distributable periodically for the life of the beneficiary, the remainder over to others. The trust has the following items of income: rent, $3,000; interest, $2,000; gain on sale of capital assets, $1,500; cash dividend, $1,000. And deductions: general expenses (all deductible from distributable income), $700; depreciation, $300; loss on sale of capital assets, $3,000. Under the terms of the trust $5,300 will be distributed to the beneficiary, viz., rent, $3,000; plus interest, $2,000; plus dividend, $1,000; less general expenses, $700. The gain and loss on the sale of capital assets will be considered capital items affecting the corpus only, and the items of depreciation will not affect the amount to be distributed, there being no rule of State law or provision of the trust re-

quiring this deduction from distributable income. In such a case the fiduciary must report on form 1041, showing a net income for the trust of $3,500, and must show as the distributive share of the beneficiary the $5,300 to which he is entitled. The beneficiary must account for the amount actually distributable to him as income, viz., $5,300, as provided in section 219 (*d*), and will be entitled to a credit of $1,000 on account of the dividends in computing the normal tax, but not to any deduction on account of depreciation or capital losses.

If there had been no loss on the sale of capital assets so that the net income of the estate or trust was $6,500, form 1041 should show the distributive share of the beneficiary as $5,300 and the distributive share of the fiduciary as $1,200; and the fiduciary should file a separate return on form 1040 A, reporting $1,200 for taxation.

(T. D. 2988, March 3, 1920)

Income tax—Assessment and administration

Amending article 29, paragraph 200, regulations No. 33 revised

Paragraph 200, of article 29, regulations No. 33 revised, is hereby amended to read as follows:

Nonresident alien beneficiary.—Where a fiduciary in the United States is the recipient of trust income for which there is but one beneficiary, and that beneficiary a nonresident alien, the fiduciary will be required to make full and complete return on income-tax form 1040 or 1040A, as the case may be, for this trust income on behalf of the nonresident alien, and pay any and all normal tax found by such return to be due, and any and all surtax, provided the income is not rturned for the purpose of the tax by the beneficiary. Where there are two or more beneficiaries, one or all of whom are nonresident aliens, the fiduciary shall render a return on form 1041, and a personal return on form 1040 or 1040A, for each nonresident alien beneficiary.

(T. D. 2992, March 29, 1920)

Income tax

Gross income defined—inclusions—article 33, regulations No. 45, amended

Article 33 of regulations No. 45 is hereby amended to read as follows:

ART. 33. *Compensation paid other than in cash.*—Where services are paid for with something other than money, the fair market value of the thing taken in payment is the amount to be included as income. If the services were rendered at a stipulated price, in the absence of evidence to the contrary, such price will be presumed to be the fair value of the compensation received. Compensation paid an employee of a corporation in its stock is to be treated as if the corporation sold the stock for its market value and paid the employee in cash. When living quarters, such as camps, are furnished to employees for the convenience of the employer, the ratable value need not be added to the cash compensation of the employee, but where a person receives as compensation for services rendered a salary and in addition thereto living quarters, the value to such person of the quarters furnished constitutes income subject to tax. Premiums paid by an employer on policies of group life insurance covering the lives of employees, the beneficiaries of which are designated by the employees, are not income to such employees.

Students' Department

EDITED BY SEYMOUR WALTON

(ASSISTED BY H. A. FINNEY)

CHARGE AND DISCHARGE

Editor, Students' Department:

SIR: Will you kindly settle the following question for me:

Can the phrase "charge and discharge" be used in referring to book entries in a synonymous sense to debit and credit?

In making up some statements to be journalized I used the word charge in place of debit and discharge in that of credit. Another one of the office force ridiculed me for this, saying that neither bookkeeping nor accounting, either literally or theoretically, admits the use of "charge and discharge" in place of debit and credit. As I do not know, I cannot argue with him. I will appreciate it greatly if you will render an opinion as to whether I am right or not.

Yours truly,
G. Q. D'A.

As far as we know the terms charge and discharge are used only in the statements of executors and others handling trust funds. The executor charges himself with an asset when he assumes responsibility for it, and he discharges himself when he parts with the asset and thus relinquishes responsibility.

It will be noted that the executor charges and discharges himself, not the asset. The only way in which these terms would be applicable to a bookkeeper of commercial accounts would be for him to consider himself the trustee of the business, responsible at least for their correctness. He could then say that he charged himself with all the debits and discharged himself when they were disposed of. But if he called all credits discharges, he would be in a bad fix when it came to an item which originated as a credit. When he entered a note payable, he would be discharging himself from a responsibility that he never had.

The terms debit and credit fill all the requirements, and it seems foolish to substitute for them terms that are very far from being improvements, to say the least.

CAPITAL STOCK TEMPORARILY IN ABEYANCE

Editor, Students' Department:

SIR: I enclose herewith a copy of a trial balance, and would appreciate if you can give me some information relative to one or two items about which there has been discussion.

This company was incorporated with a capital of $500,000.00, and $272,190.00 is held in escrow by the commission in this state, until the company pays a dividend of 6% on the balance of its stock. Of the escrow stock $125,000.00 would be given to the patentee and inventor, and $147,190.00 is held in trust for the old stockholders. How would you treat these entries on the balance-sheet? I have just submitted a balance-sheet, leaving off

the escrow stock, as I consider it of no value until the company pays a dividend, as arranged when it was organized.

CONDENSED TRIAL BALANCE

December 31, 1919

Cash	$68,403.52	
Liberty bonds and war savings stamps	4,272.23	
Bills receivable	300.00	
Sundry employees	80.45	
Factory lease	100.00	
Rough castings and raw material	10,386.24	
Finished parts	17,162.65	
Stationery, electros, etc.	1,068.77	
Fuel	365.70	
Machinery and equipment	7,089.73	
Office furniture	923.85	
Prepaid insurance	819.90	
General expense	63,685.27	
Experimental and development	11,311.19	
Subscriptions to capital stock	44,996.39	
Unissued capital	10,960.00	
N. Smith, personal stock	125,000.00	
N. Smith, stock in trust	147,190.00	
Accounts payable	....	13,717.47
Discount and interest	....	392.42
Capital stock authorized	....	500,000.00
(Debits really add $514,115.89)	$514,109.89	$514,109.89

Trusting you can give me this information, I am

Yours truly,

Detroit, Michigan. J. H.

There is no reason why any stock should be left off the balance-sheet because it happens to be held in escrow, but this condition should be recognized in any financial statement.

The proper way to exhibit the stock on the balance-sheet is as follows:

Capital stock, authorized	$500,000.00		
Less unissued	10,960.00		
In escrow for patents	125,000.00		
In trust for old stockholders	147,190.00	$283,150.00	
Total subscribed		$216,850.00	
Less subscriptions unpaid		44,996.39	
Net stock paid in			$171,853.61

This shows the entire situation exactly as it is. If no mention is made of the $272,190.00 of escrow stock, it might be inferred that no such stock existed and that the directors have that much unscribed stock that they could sell for cash. The real situation is far from being as favorable as that.

Incidentally we note that the debit side of the trial balance adds up $6.00 more than the total given. When figures are copied they should always be added to prove. Ordinary proof-reading is not enough.

Editor, Students' Department:

Sir: I would like to ask your assistance in regard to the real estate account on the books of our company, the details of which are as follows:

At the time of incorporation in 1880 the land was only considered good for grazing and valued at something like $5,00 an acre, and there were somewhere around 100,000 acres taken in at the figure of $5.00 an acre and stock was issued. Since this land has proven a rich farming land and has advanced in price to $150.00 an acre at the present time, the company has sold enough of the land at the price of $150.00 an acre for the real estate account to show a credit of $50,000.00. The entire amount of the sale has been credited to real estate and no part carried to profit and loss. The old records are such that it is almost impossible to ascertain exact cost of this land per acre, as there have been some drainage ditches put in and enclosed in a wire fence and cross fenced. There would not be any difficulty in establishing the fair market value on March 1, 1913, at $100.00 an acre.

Would you advise setting up on the books the fair market value of March 1, 1913, and crediting surplus or setting up a charge to real estate and credit of profit and loss to offset this credit balance?

What effect will this have on the income and war profits tax?

Yours truly,

C. J. M.

It is generally considered that it is wrong to write up the value of an asset solely on account of an increase in its market price.

A. Lowes Dickinson modifies this idea, and takes the ground that "over a period of years changes in values may be sufficiently permanent to render it unfair to one business to maintain original cost values as compared with another whose assets have been created at widely varying costs." He is in favor of allowing a reasonable increase in value where there is every reason to believe that it is permanent, especially where sales of part of the assets have fixed the price of the whole lot.

In the case in point justification for the write-up may be found in the fact that the supposed character of the land has changed. It was bought as grazing land and has since turned out to be rich farming land. The increase in value does not arise solely from a better demand for grazing land, but is caused by the discovery that it is intrinsically more valuable.

In writing up the value, the offsetting credit should be to surplus direct, as it is not the profit of any one year.

As to the income tax, the difference between the selling price and the value at March 1, 1913, is taxable income of the year when the sale was made.

Padding Invested Capital

Editor, Students' Department:

Sir: I do not know whether subscribers are privileged to ask you for solutions to accounting questions which they run up against or not, but I am taking a chance, and would surely appreciate an opinion on the following:

A corporation was organized in 1900. The plants, equipment, materials, patterns, patent rights, etc., of several concerns were taken over. All the capital stock was issued for these items. Capital accounts were set up and the total of them agreed with capital stock account. Very little was charged off for depreciation in the early years, but in 1907 an appraisal company

made an inventory of the plant and equipment and the accounts were adjusted accordingly.

In 1919 public accountants were called in for the purpose of examining the books with a view to making up the income-tax return. They started in at 1907 and added to the capital accounts items which had been charged to expense accounts in error and corrected the accounts up to March 1, 1913. Now (here is the part that bothers me) they add to the capital account 20% of the total administration expenses—these include officers' salaries, office expenses (except selling), interest, taxes, insurance, etc.—from the start of the company (1900) through March 1, 1913. The accountants' explanation is that a certain proportion of the administration expense applies to capital items, inasmuch as part of the officers and engineers' time is taken up in planning improvements, etc. In the above case the 20% of the administration expense almost equaled the total amount of additions made to capital account from the start of the company to March 1, 1913. It is the writer's opinion that if any time should be added for overhead, as the above might be called, it should be a certain percentage of the value of the addition, or, in other words, a percentage such as that on which an architect's fee is based. Reserves for depreciation were set up from 1907 onward, and, of course, the addition of the 20% administration allowed a bigger depreciation charge for the taxable year. I don't know whether the above idea will pass revenue muster or not, but what I'm concerned to know is: is it good accounting procedure? I might add that the accountants deemed it unwise to continue the policy after March 1, 1913.

Yours truly,
A. R. C.

No one can give an authoritative answer about a subject of which he does not know all the details. From what facts are given in the letter it would look very much as if the accountants were taking extreme measures to increase the invested capital with a view to the effect on the excess profits taxes.

If very extensive additions and improvements are being carried out, and a certain amount of time is actually given to the work by officers and clerks of the concern, it is usually considered legitimate to charge a fair proportion of their salaries as a capital expenditure; but the federal reserve bulletin on *Approved Methods for the Preparation of Balance-sheet Statements* advises against capitalizing such expenditures. It hardly seems possible that this proportion should be as high as 20% for nearly or quite twelve years. Still less is it probable that the same proportion would hold for office expenses, interest, taxes, insurance, etc.

However, we would not say that it was impossible. The company may have been doing an abnormal amount of developing and comparatively little production during its first twelve years. It would require a review of all the conditions to enable one to form an opinion that would be of any value. Without that, all that can be said is that it looks suspicious.

Commission on Sale of Capital Stock

Editor, Students' Department:

Sir: The writer would like you to explain the following queries:

A new gas company is selling stock for $100 a share, this being its par value. The salesman gets a commission of 5% for his sales. How would you make the proper entries? Another salesman wants stock instead of

commission at the same rate as above. What entries would you make for this?

In a case where stock is sold on the instalment plan how would you treat the expense of collecting the instalments? How would you treat forfeited instalment subscriptions when the firm is permitted to retain payments already made?

Trusting to be favored with a prompt reply in regard to the above requests, I wish to remain

Yours truly,
S. J. V.

The entry to be made for the sale of stock depends on the entries that have gone before. If no capital stock entries had been made, these would be in order:

Subscriber	xx	
Capital stock		xx
For ——— shares of stock.		
Commissions	xx	
To salesman		xx
Paid John Doe on ——— shares at $5.00.		

Of course, cash paid by subscribers or to salesmen would go through the cashbook.

A salesman buying stock would be treated like any other subscriber, except that the payment of his subscription would be shown by a charge to his account instead of by an entry in the cashbook. However, he might be given a cheque for his commissions, and then he could pay for his stock in cash.

Specific expenses collecting instalments may be charged to organization expense, with legal and other expenses incident to starting the concern.

If instalments are forfeited the entry would be:

Capital stock (or unsubscribed stock)...........	$1,000.00	
Subscriber	....	$900.00
Forfeited stock	....	100.00
For stock forfeited by ———.		

Eventually commissions would be charged to organization expense, and forfeited stock should be credited to the same account. This account should be written off in as few years as possible, out of profits.

Profit on Returned Purchases

Editor, Students' Department:

Sir: I note that you answer accounting problems, and as a little controversy has arisen in our store between the accounting and sales departments, I am writing you for an authoritative opinion. We closed out an important line of merchandise, and the manufacturers thereof agreed to take it back at the prevailing cost price, which in some cases is higher than what was actually paid for it. The amount involved is about $2,500.00, and the question is if this should be credited to purchase account or sales.

Yours truly,
F. J. M.

We do not see that a slight difference in price alters the status of goods returned to the purchaser. The sales department did not sell them, and they certainly do not belong in the category of sales. There seems to be no disposition that can be made of them except to treat them like any other returned purchases—credit them to purchase account, at cost, and credit the excess over cost to profit on returned goods.

Fire Losses

Editor, Students' Department:

Sir: In case of fire losses, when the property involved is carried in the investment or property account at its original cost, but is insured for its replacement value and the amount of insurance recovered exceeds the charge to investment, how should this excess be shown in the accounts?

If it was customary to charge off the net loss through an expense account, would it be good practice to credit the same account in case the recovery exceeded the original cost?

J. A. D.

The fact that errors have been made in the past by charging fire losses to an expense account does not justify the credit to expense of an unexpected profit from a fire. All adjustments of fire losses must be made through the surplus account, since they are not part of the normal operations of the business, but are accidental and extraneous.

If fire losses are so frequent as to be considered more or less a normal expense, provision against them should be made by an additional annual charge to insurance and a credit to reserve against fires. All settlements then would be through the reserve account. In this way losses will be equalized, instead of being heavy charges some years and very light or none in other years.

Controlling Account for Freight on Delivered Goods

Editor, Students' Department:

Sir: I would be pleased to have some information as to how I can control the freight account as accounts receivable and payable are controlled. I am able to control and identify all of my accounts with this exception.

Our method is to estimate the freight and place it in an estimated freight column of ledger sheet, posting direct from copy of invoice. Then when the expense bill is sent in by customer the exact freight is placed in an amount freight returned column. We have a freight dr. & cr. account in cash journal. We have no car book, and I am at a loss as to how I can control this freight without a car book. For instance, my freight account shows a credit of about $20,000.00 representing freight that we owe to our customers, awaiting the return of their expense bills for freight credit, and is an account payable, in one sense of the word. I have never been able to take a trial balance and show to within a thousand or more dollars to whom this is due—in other words, to identify the freight with the customer's name and have it come anywhere near a balance.

I will appreciate any information that you can give me or any advice as to where I can get a book which would deal with freight handling. I have quite a little accounting library but have nothing that gives me the information I need in this case.

Yours truly,
M. J. E.

It is necessary to assume some conditions that the letter does not specify. It is presumed that goods are sold f. o. b. destination, and that the freight is not prepaid but is paid by the customer, who returns the freight voucher for which he receives credit to apply as part payment for the goods. If that is the situation the freight is a charge against sales, when finally determined, and a credit to the customer.

If it were possible to prepay the freight there would be nothing to do except to charge delivered freight. Since it is not possible, it becomes necessary to institute clearing accounts in order to record the liability for the freight. First, this entry should be made:

Estimated freight	$100.00	
Reserve for freight	....	$100.00
To cover freight on invoice 5612.		

When freight bill is received from customer, this entry:

Prepaid freight	$95.00	
Reserve for freight	5.00	
Estimated freight	....	$100.00

Then:

Reserve for freight	$95.00	
Customer	....	95.00

This finally lands the actual freight in prepaid freight and the customer account and ends this transaction.

The controlling account may be kept in a register of prepaid freight ruled in columns thus:

PREPAID FREIGHT REGISTER

				Disposition		
Date	Invoice No.	Name	Estimate	Prepaid Freight	Reserve	Date

The undisposed-of amounts must be equal to the balance of estimated freight and also of reserve for freight on the general ledger, which are the controlling accounts, while the register is the subsidiary record. These should be balanced at least once a month.

Of course, the journal entries can be kept in columns and only the totals posted to the controlling accounts monthly.

The management will have to decide what to do with the old accounts that are out of balance. The new accounts can be started at once and should be kept in balance.

Valuations by Appraisal Company

Editor, Students' Department:

Sir: The writer is confronted by a problem in accounting as stated below:

A corporation carries on its books capital asset accounts of land, buildings, machinery and fixtures, office furniture and fixtures and small tools.

The properties represented by these accounts have been appraised by an appraisal company as of December 31, 1919, and the values as shown by this

appraisal considerably exceed the values as shown by the book accounts. How should these excess amounts be written on the books of the corporation so that the books will at all times disclose the correct cost value of the property and the appraised value as of above-mentioned date?

The writer has worked out his own solution of the problem and presents it herewith:

Debit

Appraisal adjustment as of December 31, 1919	
Land	....
Buildings	....
Machinery and fixtures	....
Office furniture and fixtures	....
Small tools	....
Total	....

Credit

Appraisal adjustment surplus	
Land	....
Buildings	....
Machinery and fixtures	....
Office furniture and fixtures	....
Small tools	....
Total	....

Will you kindly advise me whether in your opinion this solution is correct and greatly oblige

Yours truly,

Chicago. T. H. L.

The procedure to be followed when an appraisal company values fixed assets at higher figures than the net carrying value depends on conditions not disclosed in the letter,

It may be that too much depreciation has been charged off in the past. If that is the case, the adjusting entry should be a debit to reserve for depreciation and a credit to surplus. This is because surplus has been unduly diminished by excessive charges through depreciation account in the past.

If the management is satisfied that the present carrying value is large enough, nothing need be put on the books, but the appraised value may be shown on the balance-sheet in a parenthesis. In any event the appraised value would be the basis for the settlement of a fire loss.

If the appraisal is to be put on the books, depreciation reserve should be charged and appraisal adjustment reserve credited. The word surplus ought not to be used unless the increased value is accepted as the real value, in which case the credit would be to the regular surplus, as has already been said.

Cash Discount on Capital Purchases

Editor, Students' Department:

Sir: Will you please discuss the proper handling of cash discounts on capital purchases? Should they be treated as deductions from the purchase price or as "non-operating income"?

Your early reply will be very much appreciated.

Yours truly,

J. A. O.

Cash discount on capital purchases is unquestionably a deduction from the purchase price, whatever view is taken of the discount on revenue expenditures.

It is impossible to make a profit by purchasing anything. It is necessary to make sales in order to realize profits. Even in the case of merchandise purchases, the cash discount is not a profit until the goods are sold. In the meantime it is an unrealized element of a profit to be eventually realized when sales are made. Since capital purchases are not to be sold there will never be any way by which a profit can be realized from them directly. The assets themselves do not produce a profit, but the use of them does.

Present Worth of an Annuity

Editor, Students' Department:

Sir: Will you kindly advise me in relation to the following problem and show how it is worked out?

If a principal of $1.00 will amount to $3.386354 in 25 years at 5% per annum, what would be the present worth of an annuity of $1,250.00 for 30 years at the same rate?

Thanking you in advance, I am

Yours truly,
L. B.

To find the present worth of an annuity at 5% for 30 years it is first necessary to ascertain the figure to which $1 at compound interest for that time and rate will amount. The question gives that value for 25 years only. To find the value at 30 years either multiply successively by 1.05 for 5 years or multiply by 1.276282, which is 1 at 5% compound interest for 5 years, as shown by a table. This will give 4.3219412 as the accumulation of $1 at 5% for 30 years.

Next find the present value of $1 due in 30 years by dividing 1 by 4.3219412. This will give .2313775.

Deducting this last amount from 1 gives .7686225 as the compound discount on $1 due in 30 years.

Dividing the compound discount by .05, the rate of interest, gives the present value of an annuity of $1 for 30 years as $15.37245.

Multiplying this by 1250 gives $19,215.56 as the present value of an annuity of $1,250 for 30 years at 5%.

To prove, start with 19,215.56, add interest and deduct 1250, then add interest on the remainder, deduct 1250, and so on for 30 times.

A quicker and easier way to find the desired amount is to find the present value of each yearly instalment of $1,250. This is done by dividing $1,250 by 1.05; then dividing the quotient by 1.05, and so on with each successive quotient. The total of the 30 quotients will be the amount required.

Thus $1{,}250. \div 1.05 = 1{,}190.48$
$1{,}190.40 \div 1.05 = 1{,}133.71$
$1{,}133.71 \div 1.05 = 1{,}079.72$ and so on.

Treasury Stock—Dividends on No-Par Stock

Editor, Students' Department:

Sir: May I ask your opinion on the following?

The company which employs me as bookkeeper has had in its employ until a few weeks ago a man who, at the time of coming with this company, had the reputation of being exceptionally fine in his work. He failed, however, to come up to the expectation. He owned 75 shares of stock in the company, and agreed to resign provided the stock was taken off his hands. This the directors agreed to do, paying part in cash, the balance in notes, permitting the stock certificates to be used as collateral at the bank where the first party has note discounted, and allowing him a profit of $250.00, which makes the purchase price still less than par.

The first party purchased his entire holding on the market, the company being under no obligation to purchase stock or protect first party whatever.

(a) Has the board of directors the right to issue company notes for the purchase of stock from dissatisfied stockholders or even use the company's money for that purpose, without the stockholders' consent? This is very doubtful in my mind. The transaction, however, has already been completed.

I am handling this stock in a stock and bond account, rather than as a reduction of the capital stock account, inasmuch as the certificate has never been returned and will not be until all notes are paid.

My reason for handling it in this manner is that by reducing the capital stock account, and not having certificate to cancel, the general ledger and stock book would not agree, the stock ledger showing 75 more shares outstanding than the general ledger.

This certificate still stands on stock book in name of first party.

Am I right?

In further explanation it appears to be the desire of the directors to sell the stock rather than to retire it.

(b) One other question: the company has outstanding $50,000 preferred stock which contains a clause that after 8% per annum on preferred and 10% per annum of common has been paid, each class of stock shall share alike in the profits. Each stock has a par of $100 a share. The larger part of the common stock is held by a few men—one man and his family having control—who want the present common stock exchanged for a like number of common without par.

Is this a proper step to take when considering the preferred stock clause mentioned above?

Preferred has no voting power and the company reserves the right to retire it at $110.

How shall the preferred stockholder determine when 10% has been paid on common, if it has no par?

Wheeling, W. Va. W. H. H.

(a) The law of the state in which the company was incorporated will determine the right of a corporation to buy in its own stock. Assuming that such a step is legal, the directors do not have to consult the stockholders, but can act on their own judgment.

It was an error to charge this stock to a general stocks and bonds account. Discrimination must always be made between the outside and inside affairs of a corporation. Thus, if an outsider were lent money in order to employ otherwise idle funds, the note would be charged to notes receivable, but if any officer or employee borrows from the company or overdraws his personal account, the amount must show as due from officers

and employees. When the stock was bought it should have been charged to treasury stock. The balance-sheet which includes it in stocks and bonds account is a false statement, since it conceals the fact that the capital stock has been reduced, temporarily at least, by 75 shares. It would not be charged to capital stock, because the directors intend to sell it.

The fact that the stock is held as collateral by a bank does not affect the question. The use of the stock as collateral for the company's own notes, however, shows great ignorance on the part both of the bank and of the officers of the company. In the hands of a stockholder the stock has value as security to the bank for that stockholder's note, but when the bank holds the note of the company itself, the stock is absolutely worthless as security. In case the company should be thrown into the hands of a receiver, the note, with all the other obligations of the company, would have to be paid before anything could be paid on the stock, and if the liabilities were not paid in full, the stock would not receive anything. Therefore, either the note would have been paid in full or there would be no value in the stock when it was reached in liquidation.

It may be urged that the possession of the stock would give the bank an opportunity to realize promptly on the loan, but before the bank can have acquired the right to sell the stock, it must have put the company in default for the payment of its note. It does not require any argument to show that there is little or no value in the stock of a company that was unable to pay its note when due, and the bank would find that it really possessed no security whatever by holding the stock.

However, taking the situation as it is, there is nothing to prevent treasury stock from being used as collateral by the company itself. The ownership of the stock rests in the record on the stock ledger, not in the certificate, which is virtually only a receipt. It is not even necessary that any certificate should be issued.

It is altogether different with bonds in the treasury. They can be used as collateral for the company's own note, because they are secured by a mortgage on the fixed assets, and therefore must be paid out of the proceeds of these assets, and thus have a higher rank than an unsecured note. In other words, they have an intrinsic value which the stock does not possess.

(b) Although the common stock has no fixed par value, it has a recognized book value at all times. If all the requirements of the preferred stock have been covered, the common stock owns all the rest of the net worth. To determine its value find the net worth of the company by deducting from the total assets all the outside liabilities. From this net worth deduct the amount of the preferred stock and any accrued dividends unpaid. The remainder will be the value of the common stock. This amount is divided by the number of shares of outsatanding common to find the present value of each share of common. Let us assume that the total issue of common stock is 1,000 shares; that at the beginning of the year there are 925 outstanding (75 being in the treasury); and that the net worth belonging to it is $62,437.50, or so near it as to justify us in calling each share of common stock worth $67.50. If during the year the company should make a little

more than $15,865.63, and it was decided to pay all of it in dividends, the division would be as follows:

Preferred dividend at 8%	$4,000.00
Common dividend, 10% on $62,437.50	6,243.75
Extra preferred dividend at 5%	2,500.00
Extra common dividend at 5%	3,121.88
Total	$15,865.63

If the common stock has a book value lower than $100.00 the common stockholders lose by exchanging it for stock of no par value. When the stock was rated at $100 per share it was entitled to $10.00 per share before dividing further profits with the preferred, whereas it would now receive only 10% of its book value, this being in the above example only $6.75. Of course, if the stock has a book value greater than $100.00 the holders would make a corresponding gain. In any event, there is no difficulty in ascertaining when the common stock has been paid 10%.

Pro-rating Rent

Editor, Students' Department:

Sir: As a subscriber to The Journal of Accountancy, the present is to ask your opinion on the solution of the following problem:

A concern wishes to hire the ground floor of a building, eventually to use it for its own business. At present, however, there are four stores under lease, as follows:

	Square feet	Lease expires
Store A	870	May 1, 1920
B	1,330	" 1, 1921
C	1,360	Sept. 1. 1922
D	850	Nov. 1, 1925

The owner of the building offers the floor, subject to these leases, for $35,000 a year from May 1, 1920, the rent increasing so that the new tenant will pay on November 1, 1925, $45,000 a year. The problem is: What will the rent be from May 1, 1921, and September 1, 1922, the known rents being $35,000 from May 1, 1920, and $45,000 from November 1, 1925? Two accountants were asked to make up the rent figures and did not agree, but the lease was made at these rentals:

$35,000 to May 1, 1921.
38,100 " 1, 1921, to September 1, 1922.
42,500 to September 1, 1922, to November 1, 1925.
45,000 after November 1, 1925.

It is maintained the rentals should have been

$35,000 to May 1, 1921.
40,000 " 1, 1921, to September 1, 1922.
43,100 to September 1, 1922, to November 1, 1925.
45,000 after November 1, 1925.

Inasmuch as on May 1, 1921, 50% of the floor was available for the new tenant to use or re-rent and increase rentals. Therefore, 50% of the difference between $35,000 and $45,000 should be added here and 81% on September 1, 1922, as that amount of space would be under control of the new owner at that time; therefore the rent should be $8,100 more than on May

1, 1920—$43,100 as above. The maximum rent is to begin to run November 1, 1925, when the new tenant comes into possession of the whole floor. I know that the question of intent enters into this proposition to some extent, as witness the figures used in the lease, but inasmuch as the rent would have been $45,000 a year from May 1, 1920, had the whole floor been vacant at that time, it seems as though the second figures would have been correct to make the rent due correspond with the value of the premises as they become vacant. Under the second rent the owner would have been about $3,500 better off by the time the $45,000 rent started. Of course this matter is not related to accountancy, but I felt that your experience along mathematical lines would warrant your rendering an expert opinion.

Very truly yours,
J. F. G.

This letter cannot be answered with any certainty, because there is not enough information contained in it and too much must be taken for granted.

It says "the rent would have been $45,000 a year from May 1, 1920, had the whole floor been vacant at that time." This is by no means certain. It is true more often than not, in the case of a long lease, that the rent is lower the first five years than afterwards.

It is necessary to assume that all the floor space was of equal value, which is next to an impossibility. On May 1, 1921, possession will be gained of half the space, but it may be by far the poorer half.

The only way to fix rental values is to find out what the space is worth to the tenant and for what the landlord will let it, all the facts being taken into consideration. When these two agree, the rent is fixed and no theories as to whether it is right or wrong are worth the time it takes to state them.

However, as a purely theoretical proposition, it must be assumed that all the space has the same value. The increase in space from May 1, 1920, is 3,540 square feet and in price $10,000.00. This is at the rate of $2.825 a square foot. When 1,330 feet are released May 1, 1921, the rent should increase 1,330 times $2.825, or $3,757.25, and so on. Thus the rent would be at an annual rate of

To May 1, 1921	$35,000.00
September 1, 1922, add 1,330 feet, $3,757.25	38,757.25
November 1, 1925, add 1,360 feet, $3,818.00	42,575.25
After November 1, 1925, add 850 feet, $2,401.25	44,976.50

the small difference to be adjusted. This is very close to the figures actually accepted.

Haskins & Sells and Lawrence & Lawrence announce the consolidation (as of January, 1920) of their professional practices, to be conducted under the name of Haskins & Sells, and under the management in Denver of Page Lawrence and T. H. Lawrence.

C. C. Sheppard announces his withdrawal from the firm of Crowther & Sheppard, and the opening of offices at 601 Chamber of Commerce building, Pittsburgh, and DePew building, New York, under the firm name of Sheppard & Co.

Richard H. Scott and Elmer L. Jordan announce the formation of a partnership under the firm name of Scott & Jordan, with offices in the Hanover Trust building, 262 Washington street, Boston, Massachusetts.

Benjamin Goldenberg announces that he has admitted to partnership Simon H. Rosenthal, and that practice will be continued under the firm name of Goldenberg, Rosenthal Company, Widener building, Philadelphia.

The Society of Public Accountants of Iowa was recently incorporated. The officers are Rufus Ricker, president; E. G. Prouty, vice-president; William I. Hull, treasurer, and L. J. Muehle, secretary.

Homer C. Hammonds, Evans A. Nash and Fred Parkinson announce the opening of an office at 614 Herskowitz building, Oklahoma City, Oklahoma.

Haskins & Sells announce the opening of offices in the New York Life building, Kansas City, Missouri, and Robinson building, Tulsa, Oklahoma.

Joseph M. Krzyzan & Co. announce the opening of offices at 608 Home Savings & Loan building, Youngstown, Ohio.

Stephen S. Yeoman announces the opening of an office in the Hume-Mansur building, Indianapolis, Indiana.

Alonzo Richardson & Co., Atlanta, Georgia, announce that Dameron Black has been admitted to partnership.

Hutchinson & Smith, Dallas, Texas, announce that Ira S. Harris has become a member of the firm.

Searle, Nicholson Oakey & Lill announce the removal of their offices to 295 Broadway, New York.

MacHugh & Garretson (San Francisco) announce that J. Gordon Hill has become a member of the firm.

A. Robert Goldman announces the opening of offices at 299 Broadway, New York.

Kath & Baughman announce the opening of an office at 346 Broadway, New York.

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Foreign Exchange*

By George E. Roberts

When we speak of foreign exchange we mean the relation between our money and the money of other countries and the cost of converting a sum in our money or bank credit into foreign money or bank credit, or the reverse. If I have $1,000 in a New York bank, what can I get for it in terms of a bank deposit in London, Paris, Berlin, Madrid, Genoa, Bombay, Yokohama, Buenos Aires or wherever I may want to use it? Or, if somebody sends me a cheque or draft on a bank in one of those cities, what can I get for it in dollars here in New York, assuming, of course, that the bank on which it is drawn is good and will pay it on presentation.

There are two principal factors in it: first, the relation of the currencies to a common standard of value and, second, the state of trade between the countries. Before the outbreak of the great war, by a gradual process of evolution, nearly all the important nations had brought their currencies into fixed relations to the gold standard. The dollar of the United States meant the value of 23.22 grains of fine gold, the pound sterling of Great Britain meant the value of 113 grains of gold, and so the franc of France, the mark of Germany, the guilder of Holland, the crown of Austria- Hungary, the ruble of Russia, the yen of Japan—each meant the value of a certain number of grains of gold; and you could ship the coins of any of these countries to any other country having the gold standard and have them re-coined into the money of that country. By reason of their fixed relations to the grain of gold they were in fixed relation to each other, subject to the cost of transportation and recoinage, which was very small. The equivalent of the gold sovereign in United States

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money, based on the gold contents, was $4.8665, and before the war, whenever exchange charges either way would vary from that by more than two cents, gold would begin to move.

On the other hand, China has been a silver standard country, and the rates of exchange between China and the gold standard countries have fluctuated with the gold value of silver bullion. At the outbreak of the war silver was worth about 55 cents an ounce and silver is worth now about $1.30 an ounce. So if you have a payment to make in Chinese taels, which means a certain weight of silver, the exchange of dollars into taels takes more than twice as many dollars as before the war.

Of course, when the European countries, after the outbreak of the war, began to issue paper money in excess of their ability to redeem it in gold, their currencies lost their fixed relations to the gold standard and became depreciated; and the depreciation entered into exchange rates.

That relationship of currencies to each other through their relationship to a common standard is one factor in exchange rates.

Then there is the effect of the state of trade. Distance and trade relations may be a factor in exchange rates even within one country and under the same monetary system, but exchange charges under such conditions are usually small.

Before coming to a study of the foreign trade situation I think it may be well to illustrate it first by a situation within our own country, where no conversion from one currency into another is necessary.

Let us suppose that the state of Oklahoma, by reason of a prolonged drought, has a crop failure. It has very little to sell and with which to offset the purchases which it must make in the outside markets. It buys nearly all its merchandise from outside and usually pays largely by means of its crops. Oklahoma will have a state of unbalanced trade. The burden of making the settlements falls first on the bankers. The merchant will come to his banker and say: "I have to carry a great many of my customers over until they make another crop. I have sold them my goods, and I have to sell them more goods in the meantime, but I can't get any pay and you will have to help me pay my bills in

the east, and help me carry this load." The banker will lend to the merchant, and draw down his balances with his correspondent banks outside as low as he dares. Then if he has any municipal or railroad bonds which are marketable in the eastern markets he will sell them, to replenish his balances. And then he will present the case to his correspondent banks and borrow to replenish his balances. And the merchant, having got as much from his banker as he can, will fall back on the jobbers or manufacturers of whom he buys, and obtain extensions from them, and the merchant and banker will go to their customers, and, if possible, get them to give mortgages which can be sold outside and thus create credits and help to correct the unbalanced state of trade.

Here you see is no question of currency nor an exchange of one currency into another. It is wholly a question of getting credit to balance an unbalanced state of trade, and the conditions are much the same as in the relations between the European countries and the United States at this time. In both cases there is a necessity for credit. In the case of Europe it shows itself in the exchange rates. The high rates of exchange are something more than a charge for transmission or collection. They amount to a bid or charge for credit. In the case of Oklahoma the demand for credit does not figure in the exchange rates. The money is the same, the relations are much more intimate and it is plain borrowing.

Now, turn from the case of Oklahoma, as I have supposed it, to the case of Canada. The United States sold to Canada last year about $700,000,000 worth of products, and Canada sold to this country about $400,000,000. There is another case of unbalanced trade, not due to crop failure, but there is the same kind of a situation to consider. The sales of Canadian products in this country created only about one-half enough credits to offset the Canadian purchases. The Canadian banks could draw drafts up to $400,000,000, and then their balances would be exhausted, unless they were replenished by some other means. If the Canadian banks had gold that they could spare they might ship it to New York and draw against it, but they have had no gold to spare. The total gold reserves of Canada are only about $200,-

000,000, and in the present state of the exchanges they might all be drained away, so the government has maintained an embargo on gold exports since the beginning of the war.

If it was known that this trade balance was only temporary, if it was of a seasonal character, running one way part of the year and the other way in the rest of the year, the Canadian bankers might borrow in this country to tide over the situation; but they don't know that. Exchange between this country and Canada is very closely involved with exchange between New York and London, so the Canadian banks dare not borrow heavily for settlement purposes. The situation is too unsettled and runs into too much money.

Here is a situation where our old friend the law of supply and demand comes into play. There is a demand in Canada for more credits in the United States than are normally supplied, competition results and exchange goes to a premium. In Montreal, Toronto and other Canadian cities exchange on New York is commanding a premium of 5 to 6 per cent. Now see what that does: it offers an inducement for the creation of New York exchange. It is an open offer to anybody to come forward and furnish credits in New York for Canadian use. Anyone who will borrow in New York can sell the credit in Canada at a premium of 5 per cent, or if a Canadian holds bonds or stocks that are salable in the American market he may sell them, take his pay in a cheque on a bank in one of our centers and sell the cheque to a Canadian bank at a premium. Again, Canadian merchants may obtain credit from jobbers and manufacturers in this country or may induce them to take their pay in Canada. One way and another, by transactions like these, that $400,000,000 trade balance has been settled or adjusted for the time being. American manufacturers have millions of dollars of deposits in Canadian banks received by their Canadian agencies in payment for goods, which they are leaving there hoping for a more favorable time to bring them home. The treasurer of a prominent firm of farm implement manufacturers told me recently that they had over $2,000,000 in Canadian banks, accumulated in that way.

I want to emphasize that these exchange charges are not made arbitrarily by bankers. They are not charges for the benefit of

bankers and they are not under the control of bankers. A banker has to buy practically all the foreign exchange he sells and pay the market price for it, just as a merchant has to buy goods to meet the wants of his customers. Furthermore, it is only by offering a premium, or, in other words, by paying for the service, that people can be induced to come forward and create exchange under abnormal conditions and to meet special demands.

The exchange situation between this country and Europe is very much more acute than between this country and Canada. In the first place the trade is more unbalanced; the balances are larger in proportion to the volume of trade; and, again, the relations between this country and Canada, between the buyers and sellers who are dealing with each other, are closer, and it is easier to accomplish the various shifts by which settlements are made or postponed. Furthermore, the relations, business and financial, between the United States and England are closer than between the United States and the continent, and the relations between London and New York are not so bad as between New York and the cities of the continent, but they are well-nigh desperate in any case.

The European countries have need to buy more of us than in normal times, and they have neither gold nor goods to pay. Their industries are disorganized, and many of them are in need of raw materials which they can get nowhere except of us. And so we have seen the European exchanges sinking lower and lower from month to month; or, if you will turn the situation around and see it from the European standpoint, American exchange has been rising higher and higher, until it has become almost prohibitive.

It is no secret that the food administration of the British government is buying wheat and other foodstuffs in this country now and selling drafts on the British treasury at current rates to obtain the means of payment. There is no question about the payment of these pounds sterling in London—the discount is all because of the difficulty of finding someone who wants to use pounds sterling in London, and London is the most cosmopolitan market for commodities and investments in the world. The British people hold investments all around the world. You can

buy securities representing nitrate companies in Chili, railroads in Argentina, railroads and public utilities in Brazil and investments all over South America, in Canada and elsewhere, and use a London credit for that purpose. You can buy any security on the London market at more than 25 per cent discount from the price which the seller gets for it, by making the purchase from the United States by the use of sterling exchange. This is an extraordinary situation. It is not because the credit of Great Britain is broken down; for, if desired, the credit can be converted immediately into investments in countries that have not been in the war. It is partly that our people are not accustomed to foreign investments, and largely because there seems to be so much use for money at home.

The cotton mills of Lancashire are running upon cotton which is going forward from this country, bought with sterling exchange yesterday at about $3.75. And when you turn the situation around and consider the discount on sterling as a premium on the dollar it amounts to about 33⅓ per cent.

And if the situation with England is bad, that with France is worse. The premium on New York exchange in Paris is about 130 per cent. We think prices are high in this country; but how can the French people pay these prices, and in addition a premium of 100 per cent upon New York exchange, and then pay the abnormal ocean transportation charges besides?

And in the case of Italy the situation is still worse. Italy is without coal, iron, copper, cotton or oil. She produces none of these common necessaries, and this is almost the only country where she can get them. How can she do without them? And how can she afford to buy them at such cost? Before the war both Italy and France imported coal from England, but under labor troubles there production has fallen off until England has almost none to spare. We had word the other day that 3,500 factories using electric power in Paris and vicinity were shut down for want of coal. The coal strike in this country probably has put an end to coal exports even if credits were arranged.

Cotton mills are idle to-day in Italy, France, Belgium, Germany, Poland, Bohemia and Austria, and the skilled operatives are idle and supported by unemployment doles, because

they cannot finance the purchase of cotton—and our supply of cotton is the largest in years and far beyond the capacity of our mills to work up. Our own consumption of cotton this year is behind that of last year.

A financial committee has been in this country for months from Czecho-Slovakia, trying to get a loan of $25,000,000 or $30,000,000 to be expended here for cotton and other raw materials. They have been able to get about $5,000,000. There are commissions or representatives here from nearly every country on the continent upon the same mission, and I don't believe any American can hear their pathetic pleas without wishing every citizen of rich and prosperous America might hear them.

The dislocation of exchange is approaching an actual breakdown of international trade relations. The lower these exchanges go the greater the offerings have to be to make the same purchases. They are giving up what is real wealth, and the point is being approached when it is scarcely conceivable that purchases can go on.

The situation gives one a painful feeling of the incapacity or ineffectiveness of the social organization. It is due to a want of co-ordination and unity in the world society, as most of our troubles are. Modern, highly organized society has never known such a state of helplessness. Europe is thrown back into primitive conditions with a population which cannot be supported under primitive conditions. They must have supplies of food and raw materials for their industries from outside themselves or all European society is in danger of going into chaos. Mr. Hoover has estimated that 100,000,000 people in Europe west of Russia must be fed from outside that territory or they will die. That is not so extraordinary a statement when you understand that even in normal times before the war 70,000,000 people west of Russia had to obtain their food from Russia and outside of Europe, but in normal times they paid for this food by means of the exports which were normally flowing out. Now the food imports must be larger and there are fewer exports to meet them.

This is one of the great crises of the world's history, and the hopes of Europe naturally center in the United States. The war touched the United States but lightly as compared with Europe.

We prospered through it, in spite of it, and to some extent by means of it. We are richer as a people than when the war bgan, with greater productive capacity. The wealth-producing capacity of the United States is from one-third to one-half that of all the world. In capacity to produce steel and iron, labor-saving machinery and all kinds of industrial equipment, this country is practically equal to all the rest of the world put together. And so it is of supplies of some important raw materials. We have the resources and the ability to increase the production of those things as no other country can.

We have what Europe needs, and what she can get practically nowhere else. At any rate she can get relief promptly nowhere else, and she needs it promptly. Furthermore, we have the financial resources for providing the relief. We went into the war a debtor country and came out a creditor country. We have bought back in large part the American securities formerly owned in Europe, and bought them at very low prices by selling war supplies and foodstuffs at very high prices. And the fact that they have sold their American securities makes them more helpless in their present situation for they have denuded themselves of their liquid assets.

Now that is the situation and the relation in which Europe and America stand to each other to-day. But desperate as the situation may appear on the surface, Europe is by no means unworthy of credit. The chief risk, and I would say the only risk, in extending credit to Europe is that of social disorder, that all governments may be submerged, all obligations dishonored, and society thus lapse into utter and final ruin. But I have too much faith in mankind to believe that that will happen, especially if they have help to get on their feet and reorganize their industries and give employment to their people.

We say that Europe ought to get to work, but it is slow getting to work without tools or materials or credits.

The people of Europe have something to offer as a basis of credit. The soil of Europe, the natural resources, the industrial works and accumulated wealth of all kinds and, finally and most important of all, the population of Europe are abundant assets.

Industry and Skill Abroad

The people of Europe are industrious and skillful. They are a wealth-producing, thrifty people. Those countries are not bankrupt. It is true their indebtedness is large, but most of it is held by themselves and counts as assets as well as liabilities. No people ever went broke making payments to themselves. National indebtedness involves some problems of taxation, but where the payments of interest and principal are back to the residents and taxpayers of the same country, the problem is comparatively simple. The payment of indebtedness does not extinguish the capital transferred.

These people are not bankrupt simply because they cannot pay down on the nail. They are in the same position as farmers who have lost their crops, but still have their farms. The farmers have nothing to sell, and they have to buy seed and live somehow until they can raise another crop. Every country banker knows that there is an obligation upon him to be liberal with credits at such a time. There isn't a country merchant who doesn't know that he is interested in carrying his customers through and in supplying them with what they need to make the next crop.

The European situation is that of not having transportable wealth. They cannot ship their houses or lands or industrial works, their coal mines or forests or railways across the ocean, but they can send us securities based on these properties and pledging the income from them.

Now we have an interest in this situation on the business side. The industrial activity which has prevailed over this country this year has been largely due to the foreign demand for our products. Since the United States entered the war in 1917 the United States government has lent nearly $10,000,000,000 to foreign governments, nearly all of which has been expended in this country for the products of the soil and shops. It has made $2,000,000,000 of such loans since the armistice was signed. Our productive capacity has been expanded under this demand. In farm products the best authorities say that we have a surplus which, together with that of other exporting countries, is sufficient to meet the needs of Europe.

I know that some people argue that it would be better to

have our exports fall off, for then prices would fall, but there is another side to that. If we lose rapidly not only our export business but one-fourth or one-half the buying power of the farming districts of this country, what will be the effect upon our industries generally.

I want to see prices come down, but I think the best way of accomplishing it is by getting people back to work all over the world and increasing production. That will be a gradual process, and industry will adjust itself to it in all branches together and it will be a return to normal conditions. It isn't going to reduce the price of cotton cloth anywhere to keep the cotton mills of Europe idle. The price of sugar is not going to come down until the sugar-producing industry of Europe is revived. We want to see the cost of living lowered by reason of an abundance of the necessaries of life for all people, rather than by a glut of products in this country while people are starving elsewhere. We can never get back to normal conditions in the market until normal production is restored.

There are two views to take of this situation. First, with consideration for our obligation as the richest and most powerful nation in the world, to come forward in this emergency and do our part to re-establish industry and order in Europe. And then there is the consideration from a business standpoint, having regard for our position as a creditor nation. It is a new position for us, but it involves certain obligations and responsibilities. A nation can no more hold a creditor position and not recognize those obligations than a bank can hold its deposits and recognize no obligation to make loans. What would you say of a rich man who in time of public calamity refused to use his wealth in any way, even for business purposes, for the relief of the situation? If we aspire to high position in international affairs, to leadership in world finance, we must have the vision and courage and public spirit to play the part.

We have come into this situation suddenly, as the result of the war. Great Britain and Germany grew into their great foreign trade gradually as the result of their foreign investments. We are confronted now with the questions: "Can we rise promptly to an appreciation of the situation? Can we develop a body of

foreign investors? Are we willing to lend and lend and lend continually to support and develop our foreign trade? Will our investment market take up the offerings that will have to be made here in order to hold the exchange situation level?

The fact is that we have brought our industries to such a stage of development, and developed our wealth so far beyond that of other countries, that in the very nature of things it is now to our interest to be a lending nation to help to bring forward the backward nations.

There is a morality in the economic law, or, to put it differently, the economic law and the moral law are one. The fundamentals of universal law are never in conflict with each other. What is our duty to do it is also our interest to do.

There is an obligation upon us to assist in restoring industrial order in the devastated countries of Europe, to put these people back into their homes and workshops, to supply them with the means of becoming self-supporting and prosperous again; and it is to our interest to do so, because it will furnish employment to our industries.

Some people speak hopelessly about our ever recovering the amount of our loans to Europe. I do not feel so at all, but I think it is to our interest not to attempt to collect either principal or interest for some years to come. If the foreign governments were to attempt, under any such conditions as exist at present, to gather up exchange to pay the interest, it would send American exchange to a still higher premium and cut off our exports.

On the other hand, there are a few people who say that we ought to forgive and cancel the obligations which the United States government holds; but I do not think there is any occasion to do that. What we ought to do is to add the interest to the principal until these countries have recovered from the war, and lend them what further help we can to restore and increase their productive capacity. If we do that these debts will be of constantly diminishing importance. If development in industry is as great in the next thirty years as it was in the last thirty, these debts will be of relatively small importance.

The indebtedness of England at the close of the war with Napoleon was greater in proportion to the wealth of the country

than her indebtedness of to-day, and she never did pay off that old debt, but by the development of steam power, by the improvements of her industries, she so increased her productive capacity that she was able to supply capital in the form of equipment for the building of railroads in America and for opening up other parts of the world, with the result that she opened up great markets and at the same time secured cheaper food for her people, and created the greatest era of prosperity ever known to England.

And so I expect these debts to be paid, not by grinding the people, not by taxation that will lower their productive powers, but by increasing the productive capacities of the people. They will be paid by the same kind of development that has been characteristic of industry in the last forty years.

I believe that before many years it will be possible to refund all these foreign debts in the open American market, so that they will be held by individual investors of all nations, and no longer be a matter of public concern.

I have made these remarks without reference to any movement now pending to provide credits. I am sorry to say that at the moment no organized movement is under way. Early in the summer a movement was started by New York and Chicago bankers to form a nation-wide organization for this purpose, but it soon developed that the reasons for the movement were not understood and that the motives behind it were questioned. It could not possibly be a success under such conditions, and so it has been held up. The feeling among bankers has been that the administration at Washington should take the lead, at least in impressing upon the country the fact that it is a matter of national concern. There is no doubt that the officers of the government recognize the importance of providing credits for Europe, but the situation at Washington has been complex and not favorable for action.

It is not desirable that the government should continue to make foreign loans. It would have to offer its own obligations on the market to provide the means, and it would not want to sell its bonds at rates above those carried by the issues outstanding. The public cannot be expected to lend to Europe upon that basis. The rate should not be excessive, but it should be fair to lenders

in view of present conditions. The important thing to Europe is to have the credits provided.

The Edge Bill

The Edge bill, which is now pending, will authorize the establishment of banking corporations with a capital of $2,000,000 or more, which may issue debentures against foreign obligations in their hands. If the bill becomes a law such corporations may be organized in numerous localities to raise capital to finance the trade of those localities, or they may be organized by different lines of industry to finance their exports. The measure undoubtedly provides the means by which much foreign financing may be done. The only question about it is whether such division of efforts will accomplish as large results as a concentration of effort upon the sale of one security in all parts of the country.

All who understand the conditions upon which credits must be granted realize that they must run longer than the term of ordinary commercial credits, and that therefore they cannot be carried by the commercial banks or the federal reserve banks. The commercial banks are under obligations to keep themselves liquid to meet the current commercial demands upon them. The federal reserve banks have no authority under the law to extend such credits, which confessedly are not self-liquidating. They must be placed in the hands of investors who will take them and pay for them out of savings.

The most serious feature of the situation is in the condition of the investment market in this country. It is overloaded with offerings; our own government bonds are lower than during the war; and the entire security list is at a level which shows a want of buying power. The foreign government issues that have been brought out here since the armistice are all selling below the level at which they were issued. The taxation upon business profits is so heavy that purchasing power in that quarter is impaired, while the hopes of a new army of bond-buyers, which were raised during the war, seem to have vanished in the wild carnival of spending which has been raging since the armistice was signed. In the face of a world situation which calls for the most strenuous efforts to increase production and the most resolute

personal economy to help make good the inevitable shortage, we have a general relaxation of effort either to produce or to save, due, we must believe, to failure to appreciate the gravity of the situation. Our people say that they have no money to put into foreign securities, but if our foreign trades cease abruptly the people may then discover that they might have bought the foreign securities and by sustaining our export trade have had more money for other uses and have preserved better social conditions at home while rendering help that was vital to Europe.

Some Current Valuation Accounts

By W. A. Paton

Among questionable accounting procedures and usages are certain practices in the treatment of two kinds of discounts: (1) cash discounts, and (2) those discounts on promissory notes which are sometimes labeled "prepaid interest." The writer believes that cash discounts are simply current valuation charges and credits, as the case may be, and that, accordingly, the location of such items in the income-sheet, which seems to be approved by the majority of accountants, is not correct. Likewise unaccrued discounts on notes payable and other obligations are valuation items and should be handled as such. In fact prepaid interest in any proper sense of the term does not exist. These cases are not at all closely related, but for convenience both topics are discussed in this paper.

Cash Discounts

Much has already been written concerning the underlying significance of cash discounts and the treatment of such items in the accounts and statements. Perhaps no other minor accounting problem has aroused as much discussion as this. Several ingenious methods of accounting for purchases and sales and discounts thereon, designed to illuminate essential aspects of these transactions, have been advocated. It has been pointed out that there are various phases of discounts in which the management may be interested, such as discounts offered, discounts taken, discounts neglected and (at the end of an accounting period) discounts applicable to both accounts payable and accounts receivable outstanding and the prospective utilization thereof; and there has been considerable controversy as to the relative merits of the various schemes for presenting this information. It is not intended here to go over this ground or to elaborate still another system of accounting for discounts. The writer wishes, however, to discuss briefly the principal theoretic question involved, which seems to be still unsettled, viz.: Are discounts on sales deductions

from nominal revenue figures or positive expense or loss items, and, analogously, are purchase discounts deductions from nominal and otherwise overstated costs or positive additions to income?

It is recognized, of course, that from whichever standpoint this question is answered the effect upon net revenue is the same and that, consequently, the problem is not one of first importance. But an accounting view or practice can not be approved merely because it does not disturb the integrity of the net revenue figure. Gross revenue and cost of goods sold and total expense figures are significant amounts, particularly in the construction of the income-sheet, and the question as to whether an item should be added to one category or should be subtracted from the other is accordingly not merely a matter of tweedledum and tweedledee.

Let us consider first discounts on sales. Such discounts arise from the vendor's practice of billing goods with alternative terms of settlement allowed. The vendor usually records the transaction on his books when the goods are shipped. But it is not known certainly in advance on which basis the customer will make payment—he may settle promptly and take the discount offered, or he may postpone payment and neglect the discount. In view of this situation how should the original sale be recorded on the vendor's books? In theory it would seem to be as reasonable to use either of the alternatives as the other as a basis for the entries, because the amount which will finally be paid cannot be determined in advance. It would be conservative practice in these circumstances, however, to charge the customer and credit sales with the smaller of the possible amounts; and, as has been pointed out by several writers, it would be quite feasible to use the discounted price in making the original entries. As a matter of fact it is nearly universal practice to record the gross amount. And this procedure, while not strictly in line with that conservatism so much advocated by accountants, is nevertheless entirely reasonable and perhaps the more convenient. The amount stated in the invoice and other documents accompanying the transaction is usually the gross figure; and if legal proceedings should ensue the gross or face of the account would normally constitute the basis of the vendor's claim.

This practice of charging the customer and crediting sales with the gross rather than the discounted amount of the sale is only one phase of a general practice which is characteristic of modern accounting. The scheme of separating pluses and minuses with the device of parallel-column accounts, which permits the bookkeeper to add to the opposite side in any case rather than to make actual subtractions, has been carried far in current accounting methods. Not only is an individual account divided into opposing columns, but in many cases a parent account is divided into two or more sections, each of which rates as an independent account. Thus we have the so-called valuation or offset account, which is simply a subsidiary account designed to show, in temporarily suspended form, certain special deductions from some main heading. Securities issued, for example, are commonly credited in the accounts at face or par amounts, and the difference between such nominal sum and the actual value of the equity in any case is (or should be) charged to some discount account. Similarly, fixed assets are carried at original costs, and accrued expirations are registered by credits to appropriate reserves. Further, sales and purchases are entered in gross, and special deductions and adjustments arising because of discounts, returns, rebates, allowances, etc., are charged or credited, as the case may be, to special accounts. The use of valuation accounts permeates the whole system of modern accounts. It may be said that in general original, gross, par and face values are set up in distinct accounts, and all discounts, reserves and other offsets are entered in entirely separate accounts. Some of these valuation accounts apply to fixed asset and equity items and are retained in the balance-sheet. Others relate to current assets and liabilities and disposition is made of them through the income statement. The bookkeeping principle involved is the same in both cases, however.

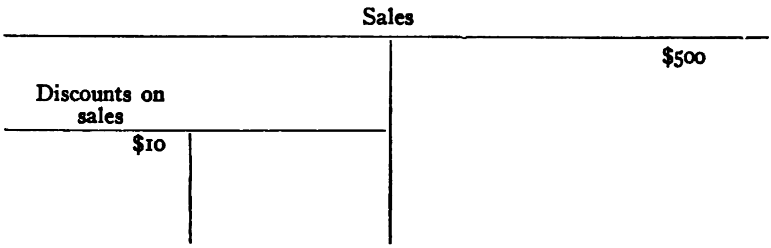
This widespread use of valuation accounts is entirely legitimate in that it serves to emphasize certain phases of special transactions for detail statistical purposes. The practice has its unfortunate side, on the other hand, in view of the fact that such accounts are commonly misinterpreted by both bookkeepers and laymen and are often improperly placed in the summary financial

statements. For example, reserves for accrued depreciation are still frequently shown in the balance-sheet grouped with true surplus balances; discounts on stocks and bonds outstanding are usually listed among the assets instead of being handled in conjunction with the accounts to which they relate; the reserve for doubtful accounts is seldom shown as a deduction from outstanding receivables.

It is true that it is now usually conceded or even urged by accountants that a genuine offset account should be shown as a deduction in the balance-sheet under the proper heading instead of being allowed to inflate the total of the opposite side of the statement. The accountant often does not appear to recognize, however, that the same problem arises in regard to the income-sheet, that there are many current valuation items which relate to expense and revenue accounts, and that it is as important that these items be correctly interpreted in the construction of the income statement as it is that the more permanent offset items be properly handled in the balance-sheet. Cash discounts belong essentially to this class of valuation items.

As stated above, when a shipment is made sales are credited with the gross amount and the customers' ledger is charged. Later, if the customer pays only the net price, in accordance with the privilege extended to him, the difference is charged to a special account, discounts on sales. What is the significance of this charge? According to the view here adopted this allowance is not an expense or a loss but simply an offset to an overstated gross revenue figure. In other words the amount of the credit to sales in excess of the net price is purely tentative, the gross figure being used for convenience, and when the customer accepts the discount the effective revenue involved in the transaction is disclosed and the nominal excess should be written off. Except in so far as it is desirable for managerial purposes to isolate temporarily the amount of discounts accepted by customers in a given period, it would be entirely proper accounting to charge such amounts directly against the gross sales. And in the periodic closing of accounts the most rational procedure is to close the discount on sales account directly into sales. Discount on sales is really a subsidiary section of the sales account,

in which are segregated for a time special offsets to nominal gross revenue figures. The relation between the two accounts (assuming a sale of $500, gross, with a discount of two per cent offered and taken) can be suggested graphically, thus:



The treatment of sales discounts as an expense, cost or loss is the result of careless reasoning. Strictly speaking expense for a given period is the cost (from the standpoint of the particular enterprise) of producing the particular quantum of revenue arising within the period. (For various reasons this ideal expense can not, of course, be exactly determined except in very simple situations.) In other words, expense ideally measures the expiration in the values of all the manifold commodities and services necessary to the creation of this revenue. In what sense, one may ask, is a discount on sales a cost of producing revenue? The consumption in production of what commodity or service does such an item measure?

The view that sales discounts are simply offsets to overstated revenue conforms to the common-sense of the case. The vendor simply has two sets of prices: one charge is made to all those who pay promptly; a somewhat higher price is required from those who are slow to pay. But the merchant would certainly be glad to make all sales on the cash basis; there is no loss involved for him when a customer accepts a discount and thereby takes advantage of the cash price. Further, if a discount on sales is a cost or expense we are forced to the conclusion that sales for which the customer pays promptly and takes the proffered discount are more expensive for the vendor than sales to customers who postpone payment and neglect the allowance. As a matter of fact the accounting costs are the same in both cases, but the true economic cost from the standpoint of the community is greater in

the case of goods sold to slow-pay customers because of the increased capital thereby required by the producer and the augmented risk attaching to such sales. It is because of these factors of increased capital and greater risk that the vendor requires a higher price when payment is slow.

All standard rebates and allowances on sales are closely allied to cash discounts. Such items are not expenses, but are deductions from nominal revenues; and their character is not altered by the fact that instead of being entered directly in the sales account as charges they are set up in special offset accounts.

Returned goods give rise to a somewhat similar situation. When a customer returns a shipment which is unsatisfactory for any reason, it is customary to charge sales returns account and credit the customer. (Entries recognizing the value of the goods returned and the reduction in cost of goods sold arising thereby may also be made, of course.) The sales returns account then constitutes a valuation account, measuring the reduction in revenue—not an addition to expense—from this cause.

Where allowances are made for goods damaged in packing or in transit, or where goods are returned because of errors in selection or careless handling on the part of the vendor's employees, additional costs may, of course, be involved. But the sales returns account would not in any sense measure these costs. The added labor cost would be shown in the payroll, the additional transportation expenses in the freight account, the deterioration of merchandise through the inventories, etc. Ordinary accounting procedures in fact would not isolate the true direct or indirect costs of such happenings, howevef desirable such segregation might be. Certainly the sales returns and allowances accounts would in any case represent merely deductions from what would otherwise be overstated revenues.

One further item might be mentioned: the charge to expense on account of estimated worthless accounts. Such a charge is also more exactly defined as a direct deduction from revenue than as a cost of production. True it is that from the standpoint of the community such losses are economic costs; and unquestionably commodities in general are higher because of the fact that not a few consumers do not pay for what they get. Still it should

be recognized that the depreciation of accounts receivable is quite different from the depreciation of the machinery used in production. Receivables are not assets which are used to produce revenues and are thereby consumed. The allowance for worthless accounts reduces revenues but does not add to the cost of goods sold. The true cost for the accountant consists of all merchandise costs, plus labor, advertising, fuel, supplies, etc., etc. But the amount of one's supposed revenues which one fails to collect is quite distinct from the value of commodities and services consumed in production. Such amounts are strictly speaking offsets to sales and not additions to cost.

According to the suggestions made above the first section in the income-sheet should be devoted to adjustments of sales. Suppose, for example, that a company during the first month of operation sells goods with a gross billing value of $450,000, gives cash discounts amounting to $6,000, credits customers on account of returns with $1,500, allows special rebates amounting to $2,000, and that the estimated loss because of bad accounts is $7,500, the income statement should then begin as follows:

Gross sales			$450,000.00
Less:			
Cash discounts allowed	$6,000.00		
Returns	1,500.00		
Special rebates	2,000.00		
Estimated worthless accounts	7,500.00		
Total deductions		17,000.00	
Net sales			$433,000.00

In closing the accounts and preparing statements it would not, of course, be strictly accurate in the normal case to deduct from sales simply the discounts accepted by customers during the period. Some of these discounts will naturally apply to sales made in the preceding period. Further, total discounts offered could not be taken as the proper deduction, as some of these discounts may never be accepted. In other words it would be impossible to determine exactly the final adjusted sales figures until after the period in question was closed. In these circumstances the most scientific procedure would be to estimate the percentage

of the total discounts proffered on sales within the period which the customers will accept and to use the amount thus determined as the offset to sales for the period on account of cash discounts. This procedure would be no more difficult or inexact than the accepted practice of estimating the allowance for bad accounts as a certain percentage of the credit sales during the period.

Thus, in the case shown above, if the total discounts offered during the month totaled $8,000, and it is estimated by the management that, in addition to the discounts of $6,000 already taken, customers will accept $1,500 of the outstanding possible discounts, the correct deduction from sales for the month will be $7,500. To give effect to this estimate in the accounts at the time of closing the following entries might be made:

Discounts on sales....................	$1,500.00	
Allowance for outstanding discounts............		$1,500.00

By these entries the proper correction on account of discounts offered would be made in both income-sheet and balance-sheet. In the income-sheet, discounts on sales would be handled as a valuation account offsetting sales to the amount of $7,500. In the balance-sheet the allowance for outstanding discounts would constitute a valuation item which should be treated as an offset to the face of the outstanding customers' accounts.

When the accounts involved are settled during the succeeding period the correct amount of discount is, of course, determined. Suppose in this case that of the $2,000 of possible discounts applying to sales for the preceding period, the amount of $1,400 is accepted by customers. This amount would be charged to the allowance for outstanding discounts and would be credited to the customers' ledger. The balance remaining in the allowance account could then be treated as a profit and loss item, or, if the amount were small, it could be left in the allowance account in the same manner as a small balance in the allowance for worthless accounts is in practice allowed to remain in that account.

In cases where experience has shown that the amount of discounts actually accepted in a given period is a reasonably accurate measure of the proper sales adjustment, it would be inadvisable, of course, to carry out the more refined analysis illustrated above. But when monthly statements, for example, are desired, and

when sales fluctuate noticeably from period to period, cash discounts taken within a particular period cannot be considered a proper gauge of the true deduction from sales on this account during the period.

Let us now consider briefly the case of purchases discounts—cash discounts from the standpoint of the vendee. Even those who might be inclined to agree with the above suggestions in regard to sales discounts would probably not admit that a corresponding treatment of purchases discounts could be approved. The consensus of opinion in the accounting profession seems to be that these discounts are a financial gain, an item of income somewhat analogous to interest earned; and in conformity with this view purchases discounts are commonly treated in the income-sheet as a miscellaneous earning.

It is the opinion of the writer that this view is not strictly correct. Purchases discounts are just as emphatically a deduction from nominal costs as sales discounts are a subtraction from what would otherwise be overstated gross revenue. Cash discounts from the standpoint of the vendee again are in essentially the same category as other rebates, allowances and returns, whatever the reason therefor. From the viewpoint of accounting all such credits should be considered as current valuation items, offsetting nominal gross costs. It is true, of course, that it is a distinct advantage to a concern to have sufficient funds to be able to pay its bills promptly and secure thereby discounts ranging from fifteen to eighty per cent per annum (a far cry from any reasonable interest rate, as has often been pointed out); but an advantageous operating condition should not be confused with a positive item of income. It is, in fact, the old story of a confusion of economic principles and practical accounting procedures. The use of capital funds involves in general an economic cost for the user and a gain for the capitalist who furnishes these funds. But from the accounting standpoint it is entirely unreasonable to consider the services of the owner as a cost on the books of the owner. The accountant attempts to present business statistics from the viewpoint of the owners in a particular enterprise, not from that of the business community as a whole. For the particular owner, cost means the cost of pur-

chased commodities and services; and earnings (resulting from all the economic functions performed by the owner) are shown as a residuum when this cost is charged to revenues. Thus the charging of interest on investment as a manufacturing cost and similar practices have very properly received little endorsement from accountants. And to consider cash discounts on purchases an earning is a similar error. To charge interest on investment to costs and credit income is analogous to the practice which permits goods purchased to pass into costs at an inflated price, while the credit which should have been closed against these nominal costs is carried to the income-sheet as a real earning.

The fallacy of treating purchases discounts as an item of income can be shown forcefully by a rather extreme illustration.

Suppose a firm, beginning business on the first day of July, buys raw materials with a gross invoice price of $400,000 between July 1 and July 20. On all these goods a two per cent discount is to be allowed by the vendors if payment be made within ten days. Being in a strong cash position the firm pays all invoices arising prior to the twentieth during July, or, in other words, accepts cash discounts to the amount of $8,000. We will suppose, however, that, although manufacturing operations are begun, no sales whatever are made during the month.

Now it seems clear that, having made no sales, the firm has made no profits during July; no income whatever has been realized. But there is a credit balance of $8,000 in the purchases discounts account and purchases discounts are said to constitute an earning! The absurdity of calling such an offset item income becomes apparent in this case. The real fact is that the firm has purchased goods with an actual cost of $392,000. The discount accepted is merely a suspended credit to the purchases account, the discount account being an adjunct of this account. There is no income as yet. If discounts in such a case are not an earning, the mere fact that some sales had been made would not make them such.

The relation between the purchases and purchase discounts accounts in this case can be suggested graphically, thus:

Purchases

$400,000	

Purchases discounts

	$8,000

The two accounts taken together show the actual net cost of materials, $392,000.

As in the case of sales discounts the correct adjustment for income-sheet purposes would not usually be the purchases discounts taken during a given period. The proper credit to purchases would be the sum of discounts taken applicable to the goods involved and discounts which will be taken. This sum could only be determined by estimating the amount of outstanding possible discounts which will probably be accepted.

A simple illustration will serve to show how this might be worked out. During his first month's business a retailer buys goods with a gross cost of $5,000. He accepts discounts during the period to the amount of $50. At the end of the month possible discounts outstanding total $50. The proprietor expects later to accept all these proffered discounts and closes his accounts for the month on that basis. The inventory at the end of the month, using net prices, is $980. To recognize the additional discounts to be taken the following entries might be made:

Discounts to be taken	$50.00	
Purchases discounts		$50.00

The effect of these entries is to show the sum of discounts taken and to be taken, applicable to purchases for the period, in the purchases discounts account and to set up a suspended offset to accounts payable. The discounts-to-be-taken balance should be used in the balance-sheet as a tentative deduction from the face of the outstanding creditors' accounts. In this way the probable effective liability would be shown. Purchases discounts should be closed into purchases; and in the income-sheet cost of goods sold would be computed and exhibited as follows:

Purchases—at gross prices	$5,000	
Less purchases discounts	100	
		$4,900
Inventory—at gross prices	$1,000	
Less discounts to be taken applicable	20	
		980
Cost of goods sold		$3,920

In the succeeding period discounts taken which were outstanding at the end of this period would be credited to discounts-to-be-taken account.

In many cases it doubtless would not be feasible to carry out the analysis suggested above in regard to prospective discounts. Certainly it is not intended to suggest that it would be desirable to make adjustments in the detail material records. If it is more convenient to use gross rather than net prices in taking inventories and in handling cost accounts, there is no serious objection to this practice. The necessary adjustments can be made in summary form through the controlling accounts and in the income-sheet. In taking inventories for federal tax purposes the taxpayer is permitted to deduct cash discounts or not as he prefers. The particular circumstances of each situation should dictate the degree to which refinement in such matters can reasonably be carried. The point which it is desired to emphasize is that, however the purchases discounts applicable to a particular case be computed, the amount should always be handled as a reduction of costs and not as an earning.

"Prepaid Interest"

The expression "prepaid interest" or "interest paid in advance" is still common in accounting phraseology, and such interest is often included in the balance-sheet as an asset, grouped with bona fide asset items such as unexpired insurance.* This is careless usage and practice. Prepaid interest in any proper sense of the term does not and in the very nature of the case cannot exist. Unaccumulated discount, whether applying to short term promis-

* See, for examples of this view, Hatfield, *Modern Accounting*, pp. 118-119; Cox, *Classified C. P. A. Problems and Solutions*—1916, p. 287.

sory notes arising in commercial transactions or to long term notes, bonds and other securities, can never be considered an asset from any reasonable point of view. Such discounts are valuation items, offsetting the par or face value of the outstanding obligation in any case to the extent to which this par or face is not yet the effective liability. The discount account in the case of notes payable, for example, is really a section of the notes payable account, showing a suspended charge to the face of the notes. The two accounts, taken together, show the effective liability.

For an illustration let us assume that A is in need of funds and, expecting to be hampered by lack of cash for some time, offers a two-year, $10,000, non-interest bearing note. B, a local capitalist, agrees to furnish $8,899.96 for such a note; and the transaction is consummated. This gives a 6% basis, interest convertible annually. The entries on the maker's books recognizing this occurrence could be set up as follows:

Cash	$8,899.96	
Discount on notes payable...........	1,100.04	
Notes payable		$10,000.00

The discount on notes payable is not an asset but purely an offset item at this moment of time. It measures the difference between the cash received and the amount to which the liability will accrue by the end of the two-year period. A has borrowed only $8,899.96. At the end of two years he will return this principal plus $1,100.04 in interest, or a total of $10,000. He advances nothing. He receives a certain sum and later returns this sum and an interest increment; but he does not forward a single dollar of interest. Nor would it have been possible for A to have prepaid any interest. Had A paid B anything when the loan was made—a peculiar procedure indeed—this would simply have altered the amount of true principal involved. Suppose, for example, that as soon as the above loan was effected A had handed B $50. This could not have been viewed as an interest prepayment. Instead A would then have received net only $8,849.96; and this would have meant—if the other terms had remained unchanged——that A, in finally paying B $10,000, would be returning

the principal plus $1,150.04 in interest. In other words, prepaid interest, in the sense of advances for services to be furnished in the future, cannot exist.

As stated above, the discount item is an offset to a liability which for the time being is in part nominal. It is a suspended debit to the notes payable account.

Now it may be objected to this view that the true liability is $10,000, and that therefore there can be no offset to this amount; and there is, of course, a sense in which this is true. The legal liability is the face of the note and in the case of insolvency this face amount would constitute the creditor's claim. But this is not the whole story, and it is doubtful if it should be the controlling consideration. In the first place the creditor might not actually receive the full amount in liquidation proceedings. The amount received in such an event would depend upon the amount of assets available and the character and amount of the other claims involved; and undoubtedly a court, in rating the various liabilities, would take unaccumulated discount into consideration. Further, general accounting practices must not be based entirely or even largely upon the conditions of bankruptcy. The typical case is the going concern—and to such a going concern the face of the note in such an instance is not the effective liability. A does not owe B $10,000 now. This figure becomes the true liability two years from the date of the loan. The assets received are valued on the basis of present values; the liability is entered in gross, an amount due in the future; hence the need for an offset or valuation account.

The net accounting liability equals simply the amount of funds received. This is true in more than a formal bookkeeping sense. A could doubtless shift this liability to a third party on essentially the basis of the net amount. That is, he could probably induce C to assume the note by paying him the amount of its present net value. Further, such a note might be made out as payable on or before the final due date; and in such a case there would assuredly be the further provision that the amount of the unaccumulated discount could be deducted from the face in making such payment.

The discount in such a case, of course, is not a constant valuation item such as discount on capital stock, which remains on the

books until written off against profits—it is an item which steadily diminishes. Discount measures the difference between principal and total future payments and represents the interest which will be paid (not which has been paid) during the entire life of the instrument involved. The discount "accumulates," it is said; in other words interest accrues and being unpaid this means that the net liability increases. If A in the above case, for example, closes his books one year after borrowing from B, these entries should be made to show the interest accrual:

Interest	$534	
Discount on notes payable....................		$534

This procedure would charge revenue with the proper interest accrual (interest on the principal, $8,899.96, for one year at six per cent) and would correct the statement of liability. B lent A $8,899.96 at the outset. Since A has not paid the year's interest, $534, B is in effect now making an additional loan of that amount.

If it were true that discounts in such cases constituted actual assets, this would mean that the funds and other properties secured by the borrower in all circumstances would equal at least the face of the outstanding obligations. It would mean, for example, that a firm borrowing $1,000 in cash on a $1,000 six per cent note, receives no more in assets therefor than a concern borrowing $800 on a four-year, non-interest bearing note for $1,000. But this, in a sense, denies the very existence of discounts and is evidently absurd.

It would not be unreasonable accounting to show the net liability directly on the books, without the use of an offset account. Thus in the case above, the entries on A's books might be:

Cash	$8,899.96	
Notes payable		$8,899.96

The recognition of interest accrual would then be accomplished by credits directly in the notes payable account. This method would in fact show the realities of the case more clearly than the other. In such a case, however, it would be desirable to append a note to the balance-sheet stating the face of the note.

A final consideration should be noted: the effect of these discount transactions on the books of the lender. What is the

note in the above case worth to B? If the discount were an asset to A this would mean that the same amount would immediately be a revenue to B—in other words that the following entries on B's books would be justified:

Notes receivable	$10,000.00	
Cash		$8,899.96
Interest—revenue		1,100.04

But it should be perfectly clear that B as yet has earned nothing. No interest in his favor has accrued. The note is not worth $10,000. If B were to assign or sell the note immediately he would not receive—nor expect to receive——more than approximately the amount he had invested, $8,899.96. The correct procedure in regard to entries on B's books, accordingly, would be to charge notes receivable with only $8,899.96, the present value of A's note, or to charge notes receivable with $10,000 and credit a valuation account, discount on notes receivable, with the difference.

Summing up, it may be said that a firm can borrow money, but it cannot purchase the services of capital and pay therefor in advance. The purchase of insurance service represents a genuine exchange of assets; but any consideration advanced by the borrower of funds to the lender would simply serve to reduce the net amount of the loan. In the case of discount nothing whatever is so advanced. Discount measures an amount of future interest,* the interest which has not yet been paid but will be paid to the lender, together with the principal, in a lump sum.

* The rate of interest involved may, of course, be affected somewhat by the discounting process. Interest as used here does not mean pure economic interest, but simply the difference between true principal and total payments.

Taxable Income and Profit and Loss

BY JOHN W. ROBERTS

Among the vicissitudes of modern business is the necessity of restating the operations of the year for purposes of the income-tax return. The items of income and deductions required on the return follow the terms of the law, which were not adapted to fit the accounting of any particular concern or industry, but of necessity had to be so general as to apply to all industry. The result is that nearly every corporation, after closing its books in accordance with an accounting system developed for commercial purposes to suit its particular needs, finds itself obliged completely to overhaul its profit and loss account and all that entered into it.

Many highly developed cost systems include a programme of numerous closing entries whereby expenses of a specific nature are distributed to other expense accounts, which in turn are distributed to still other accounts, until the nature of the expenditures in such terms as are recognized as allowable deductions in the income-tax law are lost to sight and the profit and loss account may show little more on one side than profits by departments and on the other side dividends and income taxes paid. The systems range all the way from this to that in which every detailed class of expenditure is carried in an account by itself and closed direct to the profit and loss account.

Seldom does the profit and loss account itself present the items required by the income-tax form. Repairs are quite likely to be found imbedded in manufacturing overhead. Taxes may be distributed in such a way that part has been included in manufacturing overhead and part in general expense. Interest received and interest paid are frequently merged in one account. In 1917, due to the limitation on interest paid and the consequent effect on invested capital, the segregation of interest paid in many cases had a radical effect on the amount of the tax. Depreciation is often,

and properly, included in manufacturing overhead: and yet it must be segregated and shown separately on the return.

To restate the profit and loss in terms of the items required in the return is often a laborious undertaking, and, unless all the papers in the matter are clear, it may be difficult to prove the accuracy of the resulting statement when a revenue agent comes to audit it. The object of this article is to suggest means of reducing the labor and clarifying the record. The following procedure is suggested:

Prepare an analysis of each account that enters directly or indirectly into profit and loss or surplus and contains or may contain more than one kind of income or expense as classified on the form for income-tax return. In these analyses all transfers between nominal accounts should be clearly stated, so that they can be indexed from one analysis to another by letters. The debits and credits should exactly offset each other. There then remain only simple, direct debits and credits covering specific kinds of expense and income. These remaining debits and credits in the entire set of analyses give a complete detailed statement, though lacking arrangement, of the increase in surplus for the year.

The next step is to index them numerically to the lines of schedule A of the return in which they should be included. There will be some items that find no place in schedule A. These unindexed items such as income-tax paid, dividends paid, exempt income, etc., will constitute the reconcilement between the taxable net income and the increase in surplus as shown by the balance-sheets.

A simple example of this method illustrating its application may make it clearer than many pages of description. Below are given a set of such analyses.

Surplus account, analysis A.	*Debits*	*Credits*	*Index*
Balance at beginning of the year.......		$125,000	—
Dividends paid	$ 25,000		—
Profit and loss for the year...........		60,000	B
Balance at end of the year...........	160,000		—
	$185,000	$185,000	

Profit and loss, analysis B.		*Debits*	*Credits*	*Index*
Profit on sale of investments			$ 1,000	C
Sales, less returns and allowances			473,000	1
Merchandise		$360,000		D
General expense		34,700		H
Reserve for income tax		18,000		K
Interest		500		L
Bad debts written off		800		17
Surplus		60,000		A
		$474,000	$474,000	
Profit on sale of investments, analysis C.				
Original cost of stocks 1907	$6,000			
Market value March 1, 1913	9,000			
Profit in pre-tax period			$ 3,000	—
Market value March 1, 1913	$9,000			
Proceeds of sale	7,000			
Loss in taxable period		$ 2,000		22
Profit and loss		1,000		B
		$ 3,000	$ 3,000	
Merchandise, analysis D.				
Inventory, finished goods, beginning of year		$ 24,000		2
Purchases of finished goods		10,000		2
Work in process		353,000		E
Inventory, finished goods, end of year			27,000	2
Profit and loss			360,000	B
		$387,000	$387,000	
Work in process, analysis E.				
Inventory, work in process, beginning of year		$ 54,000		2
Productive labor		103,000		2
Raw material		186,000		F
Manufacturing expense		87,000		G
Inventory, work in process, end of year			77,000	2
Merchandise			353,000	D
		$430,000	$430,000	

Raw material, analysis F.	*Debits*	*Credits*	*Index*
Inventory raw material, beginning of year	$ 26,000		2
Purchases, less returns	180,000		2
Inventory raw material, end of year		20,000	2
Work in process		186,000	E
	$206,000	$206,000	

Manufacturing expense, analysis G.			
Indirect labor	$ 50,000		2
Ordinary repairs	3,000		14
Expense supplies	8,000		2
Depreciation of factory plant	11,000		18
Cartage inward	2,000		2
Excess tax on product	3,000		16
Taxes on factory real estate	1,000		16
Salary of vice-president	7,000		13
Sundries	2,000		2
Work in process		$ 87,000	E
	$ 87,000	$ 87,000	

General expense, analysis H.			
Salaries of president and treasurer	$ 15,000		13
Salaries of clerks	11,000		12
Capital stock tax	500		16
Stationery, printing and postage	1,200		12
Salesmens' commissions	4,000		12
Depreciation of office equipment	300		18
Outward trucking	1,200		12
Telephone and telegraph	500		12
Sundries	1,000		12
Profit and loss		$ 34,700	B
	$ 34,700	$ 34,700	

Reserve for income tax, analysis K.			
Balance in reserve, beginning of year		$ 42,000	—
Paid during the year	$ 43,800		—
Profit and loss estimated provision		18,000	B
Balance in reserve end of year	16,200		—
	$ 60,000	$ 60,000	

Taxable Income and Profit and Loss

Interest, analysis L.	*Debits*	*Credits*	*Index*
Interest paid on notes	$ 2,000		15
Interest received on exempt securities		$ 2,500	—
Interest on bank balances		1,000	5
Discounts allowed on sales	6,000		12
Discounts taken on purchases		4,000	10
Profit and loss		500	B
	$ 8,000	$ 8,000	

By adding together all the items of each given index number, we obtain the following statement of taxable income.

Gross income

1.	Gross sales less returns and allowance	$473,000	
2.	Less cost of goods sold	335,000	
			$138,000
5.	Interest received		1,000
10.	Gross income from other sources		4,000
11.	Total of items 1 to 10		$143,000

Deductions

12.	Ordinary and necessary expense	$ 24,900	
13,	Compensation of officers	22,000	
14.	Repairs	3,000	
15.	Interest paid	2,000	
16.	Taxes	4,500	
17.	Bad debts	800	
18.	Exhaustion, wear and tear	11,300	
20.	Total of items 12 to 19		$ 68,500
21.			$ 74,500
22.	Loss on sale of investments		2,000
27.	Net taxable income		$ 72,500

The reconcilement with the balance-sheets is compiled from the unindexed items as follows.

Balance in surplus per initial balance-sheet..........		$125,000
Net taxable income		72,500
Dividends paid	$ 25,000	
Profit prior to March 1, 1913, on bonds sold..........		3,000
Income tax paid	43,800	
Decrease in reserve for income tax...................		25,800
Interest received on exempt securities...............		2,500
Balance in surplus per final balance-sheet...........	160,000	
	$228,800	$228,800

The schedules to accompany the return are easily prepared by stating in suitable arrangement the details that bear the same index numbers. For example, cost of goods sold is compiled as follows:

Cost of goods sold, schedule A-2

Merchandise purchased		$ 10,000
Productive labor		103,000
Raw material purchased		180,000
Manufacturing expense:		
Indirect labor	$50,000	
Expense supplies	8,000	
Cartage inward	2,000	
Sundries	2,000	
		62,000
Total		$355,000
Add initial inventory:		
Finished goods	$24,000	
Work in process	54,000	
Raw material	26,000	
		104,000
Total		$459,000
Deduct final inventory:		
Finished goods	$27,000	
Work in process	77,000	
Raw material	20,000	
		124,000
Cost of goods sold...............................		$335,000

It will be noted that most of the analyses illustrated above are merely condensed statements of accounts found in the books. That of the profit on sale of investments, however, differs from the rest in presenting facts that do not appear in the books but are necessary in order to show what treatment should be accorded to the item of $1,000.00 appearing in the profit and loss account.

The same idea of setting up in analysis form all information needed for the tax return may be applied to all matters that require special treatment for income-tax purposes. Interest on Liberty bonds, for example, appears in the books as received or accrued, irrespective of its taxability. If it appears in the above-described analyses without such distinction, a further investigation is necessary. A schedule is prepared for submission with the return showing the exemptions and the amounts of interest exempt from and the amount subject to excess-profits tax. When this has been done the results are stated in analysis form and included in the set of analyses. The total interest received can then be eliminated by indexing it by letter to the other analyses and the taxable portion can be indexed to the return form.

The foregoing method, in addition to providing a clear record of what went into each item of the return, has the advantage of great elasticity. The accountant when starting to compile a return can never tell how many adjustments and rearrangements will have to be made in order to present the information demanded. Unless his working papers are carefully planned and the scheme provided is susceptible of indefinite expansion, confusion is likely to result, and a clear record may become almost unobtainable.

It also has the advantage that it can be readily applied by junior accountants, who can dig out most of the detail of the analyses, while the accountant in charge supervises their work, ties the analyses together, indexes to the return those items that can be so indexed and calls for further analyses of those that appear still to be of a composite nature.

This method is complementary to that described in an article on the *Technique of Consolidated Returns* published in the January isue of THE JOURNAL OF ACCOUNTANCY. It provides the means for stating in terms of the return form the "increase in surplus per books." The previous article explained how, if the

books are erroneous, the necessary corrections may be made to both the "increase in surplus per books" and the balance-sheets.

The burdens of the income tax are heavy, and not the least of those burdens is the expense and annoyance of preparing and proving the returns. Every step toward the perfecting of the accounting technique involved should help to lighten this part of the burden.

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A. P. RICHARDSON Editor

EDITORIAL

Confusion in High Places

When the supreme court decision in the *Macomber vs. Eisner* case was handed down and stock dividends were thereby declared exempt from income taxation, a lady whose source of livelihood is largely dividends of corporations remarked, "Isn't that delightful. I shall have practically no income tax to pay." It required a good deal of explanation to demonstrate the difference between dividends on stock and stock dividends.

The confusion in the lady's mind was typical of a great deal of public misconception as to the true nature of a stock dividend. Probably not one per cent of the population of the United States could give anything approaching an intelligent definition of the phrase "stock dividend."

In view of the tremendous importance of the supreme court's decision in the case above mentioned it is most regrettable that there should be so widely prevalent a misconception. There seems to be excuse for much of the misunderstanding on the part of the public, particularly that part which is not concerned in investment in securities, but it seems altogether amazing that a complete misunderstanding should be found in the halls of our national legislature.

As an illustration of the fact that such a misunderstanding does prevail, we publish below a series of letters between a member of the American Institute of Accountants and Senator Nelson of Minnesota.

Senator Knute Nelson is one of our most esteemed and stalwart senators. He is a man who exemplifies to a remarkable

degree the opportunity which America offers to its immigrant population. For years he has stood for right and justice and the American ideal, and we are glad to have an opportunity to testify to the general appreciation of his services.

But Senator Nelson has wandered far from his proper sphere of activity in introducing the bill mentioned in the subjoined correspondence.

We publish the letters, not in any spirit of antipathy, but rather with a feeling of amazement that a senator of such long experience and ability should display so absolute an ignorance of some of the principles of finance. It causes us to wonder whether the level of senatorial perception in financial matters is not lower than it might be for the safety and sanity of legislation. (There are several errors in the letters obviously due to clerical carelessness but they do not greatly obscure the senator's intent).

MINNEAPOLIS, MINN., March 27, 1920.

Honorable Knute Nelson, U. S. Senate, Washington, D. C.

DEAR SIR:

Dispatches printed in the Minneapolis papers indicate that you have introduced a bill in the senate providing for a constitutional amendment by which stock dividends would be declared to be income to the recipient.

I know of no sound economic reasoning by which such stock dividends can be considered income. My experience in preparing federal income-tax returns convinces me that a change in the law as provided in the bill you are reported to have introduced would add one more inequality to those now existing in our federal tax legislation. I therefore urge that you reconsider your action, especially in the light of the majority opinion handed down by the supreme court in the case of *Macomber vs. Eisner.*

I also wish to express the opinion of a humble voter that the congress can do nothing which would please the residents of these United States more than immediately enacting a budget bill such as we have been promised for a number of years, but which has as yet failed to materialize.

Yours very truly,

A. F. WAGNER.

UNITED STATES SENATE

Committee on the Judiciary

MARCH 30, 1920.

Mr. A. F. Wagner, Security Building, Minneapolis, Minn.

MY DEAR MR. WAGNER:

Your favor of the 27th is at hand. I regret I cannot agree with you.

If the majority of the decisions (*sic*) of the supreme court prevails, all dividends of corporations can get immunity from taxation by being paid off in

stock instead of cash. It is not only an evasion of the spirit of the law to issue stock instead of paying cash to evade the income tax, but it also entails additional burdens on the public, because the corporations will always insist on having an income commensurate with the stock it issues.

Besides there is a great discrimination between an income of corporations and the income of a partnership. Partnership may be engaged in the same business as a corporation, and may have secured the same class of profits, but they cannot escape liability by issuing new stock. The dividends will be paid in cash.

I am sorry to see you take such a narrow view of the situation. If the theory of the decisions is carried out, all incomes from corporations can receive immunity by the issuance of stock dividends.

Yours very truly,
KNUTE NELSON.

MINNEAPOLIS, MINN., April 2, 1920.

Hon. Knute Nelson, U. S. Senate, Washington, D. C.

DEAR SENATOR NELSON:

Your letter of March 31st relative to stock dividends is at hand, and a careful reading thereof leads me to believe that you have been misinformed as to some of the provisions of the revenue act of 1918. In the first place, the issuing of the stock dividends in no way reduces the tax paid by a corporation; inasmuch as the corporation pays both income and excess profits taxes on all income whether distributed or not. The taxability of stock dividends thus in no way affects the tax paid by the corporation, but merely changes the tax paid by the recipient of the dividends. You must realize that in an expanding business it is impossible to pay out all the earnings in the form of cash dividends. These undistributed earnings are allowed to remain in the corporation's surplus account, and before this country had an income-tax law it was customary for corporations to declare stock dividends which showed their stockholders that earnings had been retained in the business instead of being paid out in cash. The recipient of such a stock dividend has no money from this dividend until he sells the stock. Under the decision of the supreme court in the *Macomber vs. Eisner* case, the person who receives the dividend will have to pay a tax on such amount when he disposes of the stock received as dividend and receives cash or some other consideration therefor.

Since the recent decision of the supreme court, I have talked with numerous attorneys, economists and accountants, and they are all of the opinion that the decision was based on sound doctrines.

The paragraph in your letter relative to the discrimination between corporations and partnerships is very difficult to understand. In view of the provisions of the revenue act, I have often advised clients in entering into new enterprises to form a partnership instead of a corporation, because the federal taxes on income would be smaller in total under the partnership form. If you will read section 218 of the revenue act, you will find that

partnerships as such are not subject to any tax. The individual partner pays a tax on his share of the earnings, whether distributed or not. A corporation pays a tax on all of its earnings whether distributed or not (usually at a higher rate than applies to members of a partnership), and in addition, the stockholders of the corporation pay a tax on all earnings distributed by the corporation in cash. Thus the distributed earnings of a corporation are taxed twice, once against the corporation when it earns them and, second, against the stockholder when he receives them. Therefore, if there is any discrimination between the tax on the income of corporations and on the income of partnerships, the discrimination is against the corporation and in favor of the partnership instead of as stated in your letter.

I do not see how you reason the statement made in the last part of your letter that "If the theory of the decision is carried out all incomes for corporations can receive immunity by the issuance of stock dividends." If you have ever been an officer of a corporation you will realize that the stockholders want to receive dividends in cash, and make life unpleasant for the officers unless they do receive such cash dividends. Furthermore, if they receive a stock dividend which is worth nothing and sell it, the stockholder has to pay a tax on this. In addition, the corporation itself has already paid a tax on all of its earned income. Where is the immunity?

Unless I hear from you to the contrary, I shall take the liberty to send your letter to the American Institute of Accountants.

Thanking you for your prompt reply, I am

Yours very truly,
A. F. Wagner.

UNITED STATES SENATE
Committee on the Judiciary

April 5, 1920.

Mr. A. F. Wagner, Security Building, Minneapolis, Minn.
Dear Sir:

Yours of the 2d is at hand. I can only say in reply to the same at this moment, that last week a subsidiary company of the Standard Oil Company, out in Colorado, declared a two hundred per cent stock dividend, to the great relief of the stockholders.

Yours very truly,
Knute Nelson.

Concerning Advertising

It is evidently difficult to please all the readers of The Journal of Accountancy.

As an illustration, it may be mentioned that the editorial discussing the question of advertising which appeared in the February, 1920, issue of this magazine, was productive of a considerable amount of correspondence, some of which was extremely laudatory and some very much the reverse.

For example, one correspondent says:

"The first and most serious impression we received in reading this article was the fact that the opinions expressed were from one who has reached the top rung of the ladder of success by long and hard pulls and is obvious of the fact that others possessed with the same faculities and genius, reaches the same height by a shorter method, i. e. advertising; thus making keener competition."

Another correspondent finds fault with us because "the article . . . . was evidently written by someone who is loosing ground and feels resentful to the more progressive element."

We publish the foregoing quotations exactly as received, both orthographically and syntactically. It appears that whoever was the author of the editorial in question is to be condemned because he has succeeded and also because he has failed.

The letters from which we quote are doubtless written in the kindliest way, and if space permitted we should publish them in full for there is a wealth of significance in the composition and argument. Perhaps what we have given above, however, will be sufficient to convince the intelligent reader that our editorial opinions are utterly unworthy.

Income-Tax Department

THE JOURNAL OF ACCOUNTANCY and, we believe, all readers of this magazine owe a debt of gratitude to John B. Niven, who for six years past has conducted the *Income-tax Department*. Mr. Niven's services have been of great value to the accounting profession and to others interested in the vital question of federal taxation. He has served without thought of compensation or reward of any kind except the advancement of a good cause.

Now that extreme pressure of work has made it necessary for Mr. Niven to resign the editorship of the *Income-tax Department*, we take this opportunity of expressing in an altogether inadequate way our cordial thanks for his assistance.

The *Income-tax Department* in future will appear under the editorship of Stephen G. Rusk, who for some years has been closely connected with taxation matters. Mr. Rusk is a partner of the firm of Nau, Rusk & Swearingen of Cleveland and a member of the American Institute of Accountants.

American Institute of Accountants

MEETING OF COUNCIL, APRIL 12, 1920

A regular meeting of the council of the American Institute of Accountants was held in the offices of the Institute, 1 Liberty street, in the city of New York, at 9:30 A. M., Monday, April 12, 1920.

Present:

Waldron H. Rand, president, in the chair.

Arthur W. Teele, vice-president.	Charles S. Ludlam.
J. E. Sterrett, treasurer.	W. R. Mackenzie.
A. P. Richardson, secretary.	J. E. Masters.
Hamilton S. Corwin.	Robert H. Montgomery.
J. D. M. Crockett.	Walter Mucklow.
W. Sanders Davies.	Carl H. Nau.
John F. Forbes.	Charles Neville.
Edward E. Gore.	John B. Niven.
Elmer L. Hatter.	Ernest Reckitt.
William P. Hilton.	E. W. Sells.
J. Porter Joplin.	Edward L. Suffern.
F. W. Lafrentz.	F. F. White.

The meeting was opened with prayer by the president.

Minutes of the council meetings of September 15 and 18, 1919, as printed in the year-book were approved.

Record of mail ballot No. 10 on the election of members and associates was read, approved and ordered embodied in the minutes.

The report of the treasurer was read and accepted. The report showed:

General fund: Total assets, $28,282.08; liabilities, $6,478.95; surplus, $21,803.13; income September 1, 1919, to March 31, 1920, $18,728.28; expenditures, $14,257.51.

Endowment fund: Assets, $157,064.52; receipts, $19,239.42; expenditures, $4,174.25.

Board of examiners: Receipts, $7,329.10; expenditures, $4,791.72.

Report of the secretary was read and accepted.

Report of the executive committee was read and accepted. Consideration of recommendations in the report was deferred.

Report of the committee on professional ethics was read and accepted. A recommendation in the report that certain questions arising from a complaint in regard to a published financial statement be referred to a special committee was not approved. It was resolved that the question be recommitted to the committee on professional ethics.

Report of the committee on budget and finance was read, and additional appropriations recommended by the committee were approved.

Report of the committee on constitution and by-laws was read and accepted.

In the absence of a report from the committee on education the chair-

man of the board of examiners reported that he had been in consultation with the chairman of the committee on education, and that progress was being made in the preparation of a syllabus and list of text-books.

The chairman of the special committee on national budget, Francis Oakey, appeared and made an oral report on the work of his committee, with particular reference to the appearance of the committee before the United States senate committee on the consideration of a national budget.

The report was accepted with a vote of thanks to the committee for its action.

The report of the committee on ethical publicity was read and accepted. It was resolved that the following paragraph from the report be published, and that members and associates agreeing to abstain from advertising be requested to notify the secretary accordingly.

"The committee has considered the question of submitting a rule of conduct forbidding circularizing or advertising of a nature other than that referred to in the first paragraph of this report, but after careful consideration does not feel justified in making so drastic a suggestion, realizing that at the present time there does not seem to be sufficient sentiment in the profession generally to make such a ruling effective, and that in certain parts of the country it is claimed by the members of the profession that the public has to be educated as to the work performed by accountants and the desirability of their employment. The committee suggests that the purpose desired could be furthered by an agreement among accountants to undertake to abstain from advertising and to use their influence against the practice."

The report of the committee on meetings was read. The council resolved that the desirability of certain changes in the tentative programme for the next annual meeting should be brought to the attention of the committee.

It was resolved that it would be undesirable to purchase badges for the use of members at the annual meeting.

The report of the committee on publication was read.

Suggestions in the report relative to the publication of THE JOURNAL OF ACCOUNTANCY were referred to the executive committee.

In the absence of the chairman of the committee on state legislation the secretary reported orally on the work of the committee. This report was accepted.

The report of the committee on increased membership was read and accepted.

Report of the special committee on subsidiary organizations was read and discussed at length.

It was resolved that the special committee on subsidiary organizations be discharged (at the request of the committee), and that the papers of the committee and the matter as a whole be referred to the executive committee with power.

The report of the special committee on administration of endowment was read and accepted. The chairman of the committee supplemented the written report by discussion of the financial condition of the Institute and

the question of purchasing a home for the Institute at the termination of the lease of the present offices.

The chairman of the committee on publication, referring to the report of his committee, discussed the question of publication of THE JOURNAL OF ACCOUNTANCY, with particular reference to the termination of the present contract for publication.

It was resolved that the council reconsider its resolution that the report of the committee on publication be referred to the executive committee.

It was resolved that the report of the committee on publication, the report of the special committee on administration of endowment, the question of a home for the Institute, the consideration of increasing the endowment fund and increasing the dues be referred to the executive committee and special committee on administration of endowment jointly.

John F. Forbes, of California, and F. F. White, of New Jersey, were uanimously elected members of the committee on professional ethics to fill vacancies caused by the resignation of T. Edward Ross, Pennsylvania, and Charles H. Tuttle, Massachusetts.

A recommendation from the board of examiners that William R. Wright, who had been elected an associate March 1, 1920, be elected to full membership, was adopted, and Mr. Wright was so elected, effective from the date of his original election, March 1, 1920.

It was resolved that the time for payment of overdue subscriptions to the endowment fund be extended to the date of the next meeting of the council, September 20, 1920.

A suggestion from the executive committee that the council consider the desirability of an alteration of the constitution and by-laws eliminating the requirement for mail vote on amendments to the constitution and by-laws was laid on the table.

A suggestion from the Dominion Association of Chartered Accountants that the Dominion Association and the American Institute of Accountants hold joint meetings every five years, alternately in the United States and Canada, was referred to the executive committee with power.

A reference from the committee on constitution and by-laws relative to the admission of instructors to membership in the Institute was referred to the executive committee, with a request that it report its recommendations at the next annual meeting.

It was resolved that the rule adopted by the council at the meeting of September 18, 1918, to the effect that members of the board of examiners should forfeit their membership if absent from all meetings of the board for a period of six months, be amended, and that it read as follows:

"Any member who resides within a thousand miles of the point of meeting who is absent from all meetings of the board of examiners for six months in succession shall cease to be a member of that board."

It was resolved that a special committee consisting of the members of the standing committees on federal legislation and state legislation, with power to add to their numbers, be appointed to consider proposed revenue laws, both state and national.

The meeting adjourned.

Income-Tax Department

By far the most important development in income-tax matters during the current year is the decision of the United States supreme court in the case *Eisner vs. Macomber*, judgment in which was delivered March 8, 1920.

This case is based upon the contention of the government that under the 1916 revenue laws stock dividends were taxable to the recipients. The opinion of the supreme court, delivered by Justice Pitney, disposed of the government contention and followed the lines of the court's decision in *Towne vs. Eisner* under the 1913 law.

Dissenting opinions were delivered by Justices Brandeis, Holmes and Day.

The final decision of this long-discussed question will have a permanent bearing upon all future tax legislation and administration. One immediate effect is found in the number of stock dividends which have been declared since the handing down of the decision and the many others which are confidently expected in the near future.

In view of the significance of the matter we publish in full the judgment of the court, followed by the opinions of the dissenting justices.

A more extended comment upon the decision and its effect upon administration of the law will appear in the *Income-Tax Department* next month.

SUPREME COURT OF THE UNITED STATES

Mark Eisner, as Collector of United States Internal Revenue for the Third District of the State of New York, Plaintiff in Error,

vs.

Myrtle H. Macomber.

[March 8, 1920]

Mr. Justice PITNEY delivered the opinion of the court

This case presents the question whether, by virtue of the sixteenth amendment, congress has the power to tax, as income of the stockholder and without apportionment, a stock dividend made lawfully and in good faith against profits accumulated by the corporation since March 1, 1913.

It arises under the revenue act of September 8, 1916 (Ch. 463, 39 Stat. 756, *et seq.*), which, in our opinion (notwithstanding a contention of the government that will be noticed), plainly evinces the purpose of congress to tax dividends as income.

The facts, in outline, are as follows:

On January 1, 1916, the Standard Oil Company of California, a corporation of that state, out of an authorized capital stock of $100,000,000, had shares of stock outstanding, par value $100 each, amounting in round figures to $50,000,000. In addition, it had surplus and undivided profits

invested in plant, property and business and required for the purposes of the corporation, amounting to about $45,000,000, of which about $20,000,000 had been earned prior to March 1, 1913, the balance thereafter. In January, 1916, in order to readjust the capitalization, the board of directors decided to issue additional shares sufficient to constitute a stock dividend of 50 per cent of the outstanding stock, and to transfer from surplus account to capital stock account an amount equivalent to such issue. Appropriate resolutions were adopted, an amount equivalent to the par value of the proposed new stock was transferred accordingly, and the new stock duly issued against it and divided among the stockholders.

Defendant in error, being the owner of 2,200 shares of the old stock, received certificates for 1,100 additional shares, of which 18.07 per cent, or 198.77 shares, par value $19,877, were treated as representing surplus earned between March 1, 1913, and January 1, 1916. She was called upon to pay, and did pay under protest, a tax imposed under the revenue act of 1916, based upon a supposed income of $19,877 because of the new shares; and an appeal to the commissioner of internal revenue having been disallowed, she brought action against the collector to recover the tax. In her complaint she alleged the above facts, and contended that in imposing such a tax the revenue act of 1916 violated Art. I, sec. 2, cl. 3, and Art. I, sec. 9, cl. 4, of the constitution of the United States, requiring direct taxes to be apportioned according to population, and that the stock dividend was not income within the meaning of the sixteenth amendment. A general demurrer to the complaint was overruled upon the authority of *Towne v. Eisner,* 245 U. S. 418; and, defendant having failed to plead further, final judgment went against him. To review it the present writ of error is prosecuted.

The case was argued at the last term, and reargued at the present term, both orally and by additional briefs.

We are constrained to hold that the judgment of the district court must be affirmed: first, because the question at issue is controlled by *Towne v. Eisner, supra;* secondly, because a reëxamination of the question, with the additional light thrown upon it by elaborate arguments, has confirmed the view that the underlying ground of that decision is sound, that it disposes of the question here presented, and that other fundamental considerations lead to the same result.

In *Towne v. Eisner,* the question was whether a stock dividend made in 1914 against surplus earned prior to January 1, 1913, was taxable against the stockholder under the act of October 3, 1913 (Ch. 16, 38 Stat. 114, 166), which provided (sec. B, p. 167) that the net income should include "dividends," and also "gains or profits and income derived from any source whatever." Suit having been brought by a stockholder to recover the tax assessed against him by reason of the dividend, the district court sustained a demurrer to the complaint. 242 Fed. Rep. 702. The court treated the construction of the act as inseparable from the interpretation of the sixteenth amendment; and, having referred to *Pollock v. Farmers Loan & Trust Co.,* 158 U. S. 601, and quoted the amendment, proceeded very properly to say (p. 704): "It is manifest that the stock dividend in question cannot be reached by the income-tax act, and could not, even though congress expressly declared it to be taxable as income, unless it is in fact income." It declined, however, to accede to the contention that in *Gibbons v. Mahon,* 136 U. S. 549, "stock dividends" had received a definition sufficiently clear to be controlling, treated the language of this court in that case as *obiter dictum* in respect to the matter then before it (p. 706), and examined the question as *res nova,* with the result stated. When the case came here, after overruling a motion to dismiss made by the government upon the ground that the only question involved was the construction of the statute and not its constitutionality, we dealt upon the merits with the question of construction only, but disposed of it upon consideration of the essential nature of a stock

dividend, disregarding the fact that the one in question was based upon surplus earnings that accrued before the sixteenth amendment took effect. Not only so, but we rejected the reasoning of the district court, saying (245 U. S., p. 426): "Notwithstanding the thoughtful discussion that the case received below we cannot doubt that the dividend was capital as well for the purposes of the income-tax law as for distribution between tenant for life and remainderman. What was said by this court upon the latter question is equally true for the former. 'A stock dividend really takes nothing from the property of the corporation, and adds nothing to the interests of the shareholders. Its property is not diminished, and their interests are not increased. . . . The proportional interest of each shareholder remains the same. The only change is in the evidence which represents that interest, the new shares and the original shares together representing the same proportional interest that the original shares represented before the issue of the new ones.' *Gibbons v. Mahon*, 136 U. S. 549, 559, 560. In short, the corporation is no poorer and the stockholder is no richer than they were before. *Logan County v. United States*, 169 U. S. 255, 261. If the plaintiff gained any small advantage by the change, it certainly was not an advantage of $417,450, the sum upon which he was taxed. . . . What has happened is that the plaintiff's old certificates have been split up in effect and have diminished in value to the extent of the value of the new."

This language aptly answered not only the reasoning of the district court but the argument of the solicitor general in this court, which discussed the essential nature of a stock dividend. And if, for the reasons thus expressed, such a dividend is not to be regarded as "income" or "dividends" within the meaning of the act of 1913, we are unable to see how it can be brought within the meaning of "incomes" in the sixteenth amendment; it being very clear that congress intended in that act to exert its power to the extent permitted by the amendment. In *Towne v. Eisner* it was not contended that any construction of the statute could make it narrower than the constitutional grant; rather the contrary.

The fact that the dividend was charged against profits earned before the act of 1913 took effect, even before the amendment was adopted, was neither relied upon nor alluded to in our consideration of the merits in that case. Not only so, but had we considered that a stock dividend constituted income in any true sense, it would have been held taxable under the act of 1913, notwithstanding it was based upon profits earned before the amendment. We ruled at the same term, in *Lynch v. Hornby*, 247 U. S. 339, that a cash dividend extraordinary in amount, and in *Peabody v. Eisner*, 247 U. S. 347, that a dividend paid in stock of another company, were taxable as income although based upon earnings that accrued before adoption of the amendment. In the former case, concerning "corporate profits that accumulated before the act took effect," we declared (pp. 343-344): "Just as we deem the legislative intent manifest to tax the stockholder with respect to such accumulations only if and when, and to the extent that, his interest in them comes to fruition as income, that is, in dividends declared, so we can perceive no constitutional obstacle that stands in the way of carrying out this intent when dividends are declared out of a preëxisting surplus. . . . Congress was at liberty under the amendment to tax as income, without apportionment, everything that became income, in the ordinary sense of the word, after the adoption of the amendment, including dividends received in the ordinary course by a stockholder from a corporation, even though they were extraordinary in amount and might appear upon analysis to be a mere realization in possession of an inchoate and contingent interest that the stockholder had in a surplus of corporate assets previously existing." In *Peabody v. Eisner* (pp. 349-350), we observed that the decision of the district court in *Towne v. Eisner* had been reversed "only upon the ground that it related to a stock dividend which in fact took nothing from the

property of the corporation and added nothing to the interest of the shareholder, but merely changed the evidence which represented that interest"; and we distinguished the *Peabody* case from the *Towne* case upon the ground that "the dividend of Baltimore & Ohio shares was not a stock dividend but a distribution *in specie* of a portion of the assets of the Union Pacific."

Therefore, *Towne v. Eisner* cannot be regarded as turning upon the point that the surplus accrued to the company before the act took effect and before adoption of the amendment. And what we have quoted from the opinion in that case cannot be regarded as *obiter dictum,* it having furnished the entire basis for the conclusion reached. We adhere to the view then expressed, and might rest the present case there; not because that case in terms decided the constitutional question, for it did not; but because the conclusion there reached as to the essential nature of a stock dividend necessarily prevents its being regarded as income in any true sense.

Nevertheless, in view of the importance of the matter, and the fact that congress in the revenue act of 1916 declared (39 Stat. 757) that a "stock dividend shall be considered income, to the amount of its cash value," we will deal at length with the constitutional question, incidentally testing the soundness of our previous conclusion.

The sixteenth amendment must be construed in connection with the taxing clauses of the original constitution and the effect attributed to them before the amendment was adopted. In *Pollock v. Farmers Loan & Trust Co.,* 158 U. S. 601, under the act of August 27, 1894 (Ch. 349, sec. 27, 28 stat. 509, 553), it was held that taxes upon rents and profits of real estate and upon returns from investments of personal property were in effect direct taxes upon the property from which such income arose, imposed by reason of ownership; and that congress could not impose such taxes without apportioning them among the states according to population, as required by art. I, sec. 2, cl. 3, and sec. 9, cl. 4, of the original constitution.

Afterwards, and evidently in recognition of the limitation upon the taxing power of congress thus determined, the sixteenth amendment was adopted, in words lucidly expressing the object to be accomplished: "The congress shall have power to lay and collect taxes on incomes, from whatever source derived, without apportionment among the several states, and without regard to any census or enumeration." As repeatedly held, this did not extend the taxing power to new subjects, but merely removed the necessity which otherwise might exist for an apportionment among the states of taxes laid on income. *Brushaber v. Union Pacific R. R. Co.,* 240 U. S. 1, 17-19; *Stanton v. Baltic Mining Co.,* 240 U. S. 103, 112 *et seq.; Peck & Co. v. Lowe,* 247 U. S. 165, 172-173.

A proper regard for its genesis, as well as its very clear language, requires also that this amendment shall not be extended by loose construction, so as to repeal or modify, except as applied to income, those provisions of the constitution that require an apportionment according to population for direct taxes upon property, real and personal. This limitation still has an appropriate and important function, and is not to be overridden by congress or disregarded by the courts.

In order, therefore, that the clauses cited from article I of the constitution may have proper force and effect, save only as modified by the amendment, and that the latter also may have proper effect, it becomes essential to distinguish between what is and what is not "income," as the term is there used; and to apply the distinction, as cases arise, according to truth and substance, without regard to form. Congress cannot by any definition it may adopt conclude the matter, since it cannot by legislation alter the constitution, from which alone it derives its power to legislate, and within whose limitations alone that power can be lawfully exercised.

The fundamental relation of "capital" to "income" has been much dis-

cussed by economists, the former being likened to the tree or the land, the latter to the fruit or the crop; the former depicted as a reservoir supplied from springs, the latter as the outlet stream, to be measured by its flow during a period of time. For the present purpose we require only a clear definition of the term "income," as used in common speech, in order to determine its meaning in the amendment; and, having formed also a correct judgment as to the nature of a stock dividend, we shall find it easy to decide the matter at issue.

After examining dictionaries in common use (Bouv. L. D.; Standard Dict.; Webster's Internat. Dict.; Century Dict.), we find little to add to the succinct definition adopted in two cases arising under the corporation tax act of 1909 (*Stratton's Independence v. Howbert,* 231 U. S. 399, 415; *Doyle v. Mitchell Bros. Co.,* 247 U. S. 179, 185)—"Income may be defined as the gain derived from capital, from labor, or from both combined," provided it be understood to include profit gained through a sale or conversion of capital assets, to which it was applied in the *Doyle* case (pp. 183, 185).

Brief as it is, it indicates the characteristic and distinguishing attribute of income essential for a correct solution of the present controversy. The government, although basing its argument upon the definition as quoted, placed chief emphasis upon the word "gain," which was extended to include a variety of meanings; while the significance of the next three words was either overlooked or misconceived. *"Derived—from—capital";*—"the *gain —derived—from—capital,"* etc. Here we have the essential matter: *not* a gain *accruing to* capital, not a *growth* or *increment* of value *in* the investment; but a gain, a profit, something of exchangeable value *proceeding from* the property, *severed from* the capital however invested or employed, and *coming in,* being *"derived,"* that is, *received* or *drawn by* the recipient (the taxpayer) for his *separate* use, benefit and disposal;—*that* is income derived from property. Nothing else answers the description.

The same fundamental conception is clearly set forth in the sixteenth amendment—"incomes, *from* whatever *source derived"*—the essential thought being expressed with a conciseness and lucidity entirely in harmony with the form and style of the constitution.

Can a stock dividend, considering its essential character, be brought within the definition? To answer this, regard must be had to the nature of a corporation and the stockholder's relation to it. We refer, of course, to a corporation such as the one in the case at bar, organized for profit, and having a capital stock divided into shares to which a nominal or par value is attributed.

Certainly the interest of the stockholder is a capital interest, and his certificates of stock are but the evidence of it. They state the number of shares to which he is entitled and indicate their par value and how the stock may be transferred. They show that he or his assignors, immediate or remote, have contributed capital to the enterprise, that he is entitled to a corresponding interest proportionate to the whole, entitled to have the property and business of the company devoted during the corporate existence to attainment of the common objects, entitled to vote at stockholders' meetings, to receive dividends out of the corporation's profits if and when declared, and, in the event of liquidation, to receive a proportionate share of the net assets, if any, remaining after paying creditors. Short of liquidation, or until dividend declared, he has no right to withdraw any part of either capital or profits from the common enterprise; on the contrary, his interest pertains not to any part, divisible or indivisible, but to the entire assets, business and affairs of the company. Nor is it the interest of an owner, since the corporation has full title, legal and equitable, to the whole. The stockholder has the right to have the assets employed in the enterprise, with the incidental rights mentioned; but, as stockholder, he has no right to with-

draw, only the right to persist, subject to the risks of the enterprise, and looking only to dividends for his return. If he desires to dissociate himself from the company he can do so only by disposing of his stock.

For bookkeeping purposes the company acknowledges a liability in form to the stockholders equivalent to the aggregate par value of their stock, evidenced by a "capital stock account." If profits have been made and not divided they create additional bookkeeping liabilities under the head of "profit and loss," "undivided profits," "surplus account," or the like. None of these, however, gives to the stockholders as a body, much less to any one of them, either a claim against the going concern for any particular sum of money, or a right to any particular portion of the assets or any share in them unless or until the directors conclude that dividends shall be made and a part of the company's assets segregated from the common fund for the purpose. The dividend normally is payable in money, under exceptional circumstances in some other divisible property; and when so paid, then only (excluding, of course, a possible advantageous sale of his stock or winding-up of the company) does the stockholder realize a profit or gain which becomes his separate property, and thus derive income from the capital that he or his predecessor has invested.

In the present case, the corporation had surplus and undivided profits invested in plant, property and business, and required for the purposes of the corporation, amounting to about $45,000,000, in addition to outstanding capital stock of $50,000,000. In this the case is not extraordinary. The profits of a corporation, as they appear upon the balance-sheet at the end of the year, need not be in the form of money on hand in excess of what is required to meet current liabilities and finance current operations of the company. Often, especially in a growing business, only a part, sometimes a small part, of the year's profits is in property capable of division; the remainder having been absorbed in the acquisition of increased plant, equipment, stock in trade, or accounts receivable, or in decrease of outstanding liabilities. When only a part is available for dividends, the balance of the year's profits is carried to the credit of undivided profits, or surplus, or some other account having like significance. If thereafter the company finds itself in funds beyond current needs it may declare dividends out of such surplus or undivided profits; otherwise it may go on for years conducting a successful business, but requiring more and more working capital because of the extension of its operations, and therefore unable to declare dividends approximating the amount of its profits. Thus the surplus may increase until it equals or even exceeds the par value of the outstanding capital stock. This may be adjusted upon the books in the mode adopted in the case at bar—by declaring a "stock dividend." This, however, is no more than a book adjustment, in essence not a dividend but rather the opposite; no part of the assets of the company is separated from the common fund, nothing distributed except paper certificates that evidence an antecedent increase in the value of the stockholder's capital interest resulting from an accumulation of profits by the company, but profits so far absorbed in the business as to render it impracticable to separate them for withdrawal and distribution. In order to make the adjustment, a charge is made against surplus account with corresponding credit to capital stock account, equal to the proposed "dividend"; the new stock is issued against this and the certificates delivered to the existing stockholders in proportion to their previous holdings. This, however, is merely bookkeeping that does not affect the aggregate assets of the corporation or its outstanding liabilities; it affects only the form, not the essence, of the "liability" acknowledged by the corporation to its own shareholders, and this through a readjustment of accounts on one side of the balance-sheet only, increasing "capital stock" at the expense of "surplus"; it does not alter the preëxisting proportionate interest of any stockholder or increase the intrinsic value of his holding or of the aggregate

holdings of the other stockholders as they stood before. The new certificates simply increase the number of the shares, with consequent dilution of the value of each share.

A "stock dividend" shows that the company's accumulated profits have been capitalized, instead of distributed to the stockholders or retained as surplus available for distribution in money or in kind should opportunity offer. Far from being a realization of profits of the stockholder, it tends rather to postpone such realization, in that the fund represented by the new stock has been transferred from surplus to capital, and no longer is available for actual distribution.

The essential and controlling fact is that the stockholder has received nothing out of the company's assets for his separate use and benefit; on the contrary, every dollar of his original investment, together with whatever accretions and accumulations have resulted from employment of his money and that of the other stockholders in the business of the company, still remains the property of the company, and subject to business risks which may result in wiping out the entire investment. Having regard to the very truth of the matter, to substance and not to form, he has received nothing that answers the definition of income within the meaning of the sixteenth amendment.

Being concerned only with the true character and effect of such a dividend when lawfully made, we lay aside the question whether in a particular case a stock dividend may be authorized by the local law governing the corporation, or whether the capitalization of profits may be the result of correct judgment and proper business policy on the part of its management, and a due regard for the interests of the stockholders. And we are considering the taxability of *bona fide* stock dividends only.

We are clear that not only does a stock dividend really take nothing from the property of the corporation and add nothing to that of the shareholder, but that the antecedent accumulation of profits evidenced thereby, while indicating that the shareholder is the richer because of an increase of his capital, at the same time shows he has not realized or received any income in the transaction.

It is said that a stockholder may sell the new shares acquired in the stock dividend; and so he may, if he can find a buyer. It is equally true that if he does sell, and in doing so realizes a profit, such profit, like any other, is income, and so far as it may have arisen since the sixteenth amendment is taxable by congress without apportionment. The same would be true were he to sell some of his original shares at a profit. But if a shareholder sells dividend stock he necessarily disposes of a part of his capital interest, just as if he should sell a part of his old stock, either before or after the dividend. What he retains no longer entitles him to the same proportion of future dividends as before the sale. His part in the control of the company likewise is diminished. Thus, if one holding $60,000 out of a total $100,000 of the capital stock of a corporation should receive in common with other stockholders a 50 per cent stock dividend, and should sell his part, he thereby would be reduced from a majority to a minority stockholder, having six-fifteenths instead of six-tenths of the total stock outstanding. A corresponding and proportionate decrease in capital interest and in voting power would befall a minority holder should he sell dividend stock; it being in the nature of things impossible for one to dispose of any part of such an issue without a proportionate disturbance of the distribution of the entire capital stock, and a like diminution of the seller's comparative voting power —that "right preservative of rights" in the control of a corporation. Yet, without selling, the shareholder, unless possessed of other resources, has not the wherewithal to pay an income tax upon the dividend stock. Nothing could more clearly show that to tax a stock dividend is to tax a capital

increase, and not income, than this demonstration that in the nature of things it requires conversion of capital in order to pay the tax.

Throughout the argument of the government, in a variety of forms, runs the fundamental error already mentioned—a failure to appraise correctly the force of the term "income" as used in the sixteenth amendment, or at least to give practical effect to it. Thus, the government contends that the tax "is levied on income derived from corporate earnings," when in truth the stockholder has "derived" nothing except paper certificates which, so far as they have any effect, deny him present participation in such earnings. It contends that the tax may be laid when earnings "are received by the stockholder," whereas he has received none; that the profits are "distributed by means of a stock dividend," although a stock dividend distributes no profits; that under the act of 1916 "the tax is on the stockholder's share in corporate earnings," when in truth a stockholder has no such share, and receives none in a stock dividend; that "the profits are segregated from his former capital, and he has a separate certificate representing his invested profits or gains," whereas there has been no segregation of profits, nor has he any separate certificate representing a personal gain, since the certificates, new and old, are alike in what they represent—a capital interest in the entire concerns of the corporation.

We have no doubt of the power or duty of a court to look through the form of the corporation and determine the question of the stockholder's right, in order to ascertain whether he has received income taxable by congress without apportionment. But, looking through the form, we cannot disregard the essential truth disclosed; ignore the substantial difference between corporation and stockholder; treat the entire organization as unreal; look upon stockholders as partners, when they are not such; treat them as having in equity a right to a partition of the corporate assets, when they have none; and indulge the fiction that they have received and realized a share of the profits of the company, which in truth they have neither received nor realized. We must treat the corporation as a substantial entity separate from the stockholder, not only because such is the practical fact but because it is only by recognizing such separateness that any dividend—even one paid in mony or property—can be regarded as income of the stockholder. Did we regard corporation and stockholders as altogether identical, there would be no income except as the corporation acquired it; and while this would be taxable against the corporation as income under appropriate provisions of law, the individual stockholders could not be separately and additionally taxed with respect to their several shares even when divided, since if there were entire identity between them and the company they could not be regarded as receiving anything from it, any more than if one's money were to be removed from one pocket to another.

Conceding that the mere issue of a stock dividend makes the recipient no richer than before, the government nevertheless contends that the new certificates measure the extent to which the gains accumulated by the corporation have made him the richer. There are two insuperable difficulties with this: In the first place, it would depend upon how long he had held the stock whether the stock dividend indicated the extent to which he had been enriched by the operations of the company; unless he had held it throughout such operations the measure would not hold true. Secondly, and more important for present purposes, enrichment through increase in value of capital investment is not income in any proper meaning of the term.

The complaint contains averments respecting the market prices of stock such as plaintiff held, based upon sales before and after the stock dividend, tending to show that the receipt of the additional 1,100 shares did not substantially change the market value of her entire holdings. This tends to show that in this instance market quotations reflected intrinsic values—a thing they do not always do. But we regard the market prices of the

securities as an unsafe criterion in an inquiry such as the present, when the question must be, not what will the thing sell for, but what is it in truth and in essence.

It is said there is no difference in principle between a simple stock dividend and a case where stockholders use money received as cash dividends to purchase additional stock contemporaneously issued by the corporation. But an actual cash dividend, with a real option to the stockholder either to keep the money for his own or to reinvest it in new shares, would be as far removed as possible from a true stock dividend, such as the one we have under consideration, where nothing of value is taken from the company's assets and transferred to the individual ownership of the several stockholders and thereby subjected to their disposal.

The government's reliance upon the supposed analogy between a dividend of the corporation's own shares and one made by distributing shares owned by it in the stock of another company, calls for no comment beyond the statement that the latter distributes assets of the company among the shareholders while the former does not; and for no citation of authority except *Peabody vs. Eisner*, 247 U. S. 347, 349-350.

Two recent decisions, proceeding from courts of high jurisdiction, are cited in support of the position of the government.

Swan Brewery Co., Ltd. v. Rex [1914], A. C. 231, arose under the Dividend Duties Act of Western Australia, which provided that "dividend" should include "every dividend, profit, advantage, or gain intended to be paid or credited to or distributed among any members or directors of any company," except, etc. There was a stock dividend, the new shares being allotted among the shareholders *pro rata;* and the question was whether this was a distribution of a dividend within the meaning of the act. The judicial committee of the privy council sustained the dividend duty upon the ground that, although "in ordinary language the new shares would not be called a dividend, nor would the allotment of them be a distribution of a dividend," yet, within the meaning of the act, such new shares were an "advantage" to the recipients. There being no constitutional restriction upon the action of the lawmaking body, the case presented merely a question of statutory construction, and manifestly the decision is not a precedent for the guidance of this court when acting under a duty to test an act of congress by the limitations of a written constitution having superior force.

In *Tax Commissioner v. Putnam* (1917), 227 Mass. 522, it was held that the 44th amendment to the constitution of Massachusetts, which conferred upon the legislature full power to tax incomes, "must be interpreted as including every item which by any reasonable understanding can fairly be regarded as income" (pp. 526, 531); and that under it a stock dividend was taxable as income, the court saying (p. 535): "In essence, the thing which has been done is to distribute a symbol representing an accumulation of profits, which instead of being paid out in cash is invested in the business, thus augmenting its durable assets. In this aspect of the case the substance of the transaction is no different from what it would be if a cash dividend had been declared with the privilege of subscription to an equivalent amount of new shares." We cannot accept this reasoning. Evidently, in order to give a sufficiently broad sweep to the new taxing provision, it was deemed necessary to take the symbol for the substance, accumulation for distribution, capital accretion for its opposite; while a case where money is paid into the hand of the stockholder with an option to buy new shares with it, followed by a hypothetical acceptance of the option, was regarded as identical in substance with a case where the stockholder receives no money and has no option. The Massachusetts court was not under an obligation, like the one which binds us, of applying a constitutional amendment in the light of other constitutional provisions that stand in the way of extending it by construction.

Upon the second argument, the government, recognizing the force of the decision in *Towne v. Eisner, supra,* and virtually abandoning the contention that a stock dividend increases the interest of the stockholder or otherwise enriches him, insisted as an alternative that by the true construction of the act of 1916 the tax is imposed not upon the stock dividend but rather upon the stockholder's share of the undivided profits previously accumulated by the corporation; the tax being levied as a matter of convenience at the time such profits become manifest through the stock dividend. If so construed, would the act be constitutional?

That congress has power to tax shareholders upon their property interests in the stock of corporations is beyond question; and that such interests might be valued in view of the condition of the company, including its accumulated and undivided profits, is equally clear. But that this would be taxation of property because of ownership, and hence would require apportionment under the provisions of the constitution, is settled beyond peradventure by previous decisions of this court.

The government relies upon *Collector v. Hubbard* (1870), 12 Wall. 1, 17, which arose under sec. 117 of the act of June 30, 1864 (Ch. 173; 13 Stat. 223, 282), providing that "the gains and profits of all companies, whether incorporated or partnership, other than the companies specified in this section, shall be included in estimating the annual gains, profits, or income of any person entitled to the same, whether divided or otherwise." The court held an individual taxable upon his proportion of the earnings of a corporation although not declared as dividends and although invested in assets not in their nature divisible. Conceding that the stockholder for certain purposes had no title prior to dividend declared, the court nevertheless said (p. 18): "Grant all that, still it is true that the owner of a share of stock in a corporation holds the share with all its incidents, and that among those incidents is the right to receive all future dividends; that is, his proportional share of all profits not then divided. Profits are incident to the share to which the owner at once becomes entitled provided he remains a member of the corporation until a dividend is made. Regarded as an incident to the shares, undivided profits are property of the shareholder, and as such are the proper subject of sale, gift or devise. Undivided profits invested in real estate, machinery, or raw material for the purpose of being manufactured are investments in which the stockholders are interested, and when such profits are actually appropriated to the payment of the debts of the corporation they serve to increase the market value of the shares, whether held by the original subscribers or by assignees." In so far as this seems to uphold the right of congress to tax without apportionment a stockholder's interest in accumulated earnings prior to dividend declared, it must be regarded as overruled by *Pollock v. Farmers Loan & Trust Co.*, 158 U. S. 601, 627, 628, 637. Conceding *Collector v. Hubbard* was inconsistent with the doctrine of that case, because it sustained a direct tax upon property not apportioned among the states, the government nevertheless insists that the sixteenth amendment removed this obstacle, so that now the *Hubbard* case is authority for the power of congress to levy a tax on the stockholder's share in the accumulated profits of the corporation even before division by the declaration of a dividend of any kind. Manifestly this argument must be rejected, since the amendment applies to income only, and what is called the stockholder's share in the accumulated profits of the company is capital, not income. As we have pointed out, a stockholder has no individual share in accumulated profits, nor in any particular part of the assets of the corporation, prior to dividend declared.

Thus, from every point of view, we are brought irresistibly to the conclusion that neither under the sixteenth amendment nor otherwise has congress power to tax without apportionment a true stock dividend made lawfully and in good faith, or the accumulated profits behind it, as income of

the stockholder. The revenue act of 1916, in so far as it imposes a tax upon the stockholder because of such dividend, violates the provisions of article I, section 2, clause 3, and article I, section 9, clause 4, of the constitution, and to this extent is invalid notwithstanding the sixteenth amendment.

Judgment affirmed.

Mr. Justice BRANDEIS delivered the following opinion:

Financiers, with the aid of lawyers, devised long ago two different methods by which a corporation can, without increasing its indebtedness, keep for corporate purposes accumulated profits, and yet, in effect, distribute these profits among its stockholders. One method is a simple one. The capital stock is increased; the new stock is paid up with the accumulated profits; and the new shares of paid-up stock are then distributed among the stockholders pro rata as a dividend. If the stockholder prefers ready money to increasing his holding of the stock in the company, he sells the new stock received as a dividend. The other method is slightly more complicated. Arrangements are made for an increase of stock to be offered to stockholders pro rata at par and, at the same time, for the payment of a cash dividend equal to the amount which the stockholder will be required to pay to the company, if he avails himself of the right to subscribe for his pro rata of the new stock. If the stockholder takes the new stock, as is expected, he may endorse the dividend check to the corporation and thus pay for the new stock. In order to ensure that all the new stock so offered will be taken, the price at which it is offered is fixed far below what it is believed will be its market value. If the stockholder prefers ready money to an increase of his holdings of stock, he may sell his right to take new stock pro rata, which is evidenced by an assignable instrument. In that event the purchaser of the rights repays to the corporation, as the subscription price of the new stock, an amount equal to that which it had paid as a cash dividend to the stockholder.

Both of these methods of retaining accumulated profits while in effect distributing them as a dividend had been in common use in the United States for many years prior to the adoption of the sixteenth amendment. They were recognized equivalents. Whether a particular corporation employed one or the other method was determined sometimes by requirements of the law under which the corporation was organized; sometimes it was determined by preferences of the individual officials of the corporation; and sometimes by stock market conditions. Whichever method was employed the resultant distribution of the new stock was commonly referred to as a stock dividend. How these two methods have been employed may be illustrated by the action in this respect (as reported in *Moody's Manual,* 1918 *Industrial,* and the *Commercial and Financial Chronicle*), of some of the Standard Oil companies, since the disintegration pursuant to the decision of this court in 1911. *Standard Oil Co. v United States,* 221 U. S. 1.

(*a*) Standard Oil Co. (of Indiana), an Indiana corporation. It had on December 31, 1911, $1,000,000 capital stock (all common), and a large surplus. On May 15, 1912, it increased its capital stock to $30,000,000, and paid a simple stock dividend of 2900 per cent in stock.

(*b*) Standard Oil Co. (of Nebraska), a Nebraska corporation. It had on December 31, 1911, $600,000 capital stock (all common), and a substantial surplus. On April 15, 1912, it paid a simple stock dividend of 33⅓ per cent., increasing the outstanding capital to $800,000. During the calendar year 1912 it paid cash dividends aggregating 20 per cent; but it earned considerably more, and had at the close of the year again a substantial surplus. On June 20, 1913, it declared a further stock dividend of 25 per cent, thus increasing the capital to $1,000,000.

(*c*) The Standard Oil Co. (of Kentucky), a Kentucky corporation.

It had on December 31, 1913, $1,000,000 capital stock (all common) and $3,701,710 surplus. Of this surplus $902,457 had been earned during the calendar year 1913, the net profits of that year having been $1,002,457 and the dividends paid only $100,000 (10 per cent). On December 22, 1913, a cash dividend of $200 per share was declared payable on February 14, 1914, to stockholders of record January 31, 1914; and these stockholders were offered the right to subscribe for an equal amount of new stock at par and to apply the cash dividend in payment therefor. The outstanding stock was thus increased to $3,000,000. During the calendar years 1914, 1915 and 1916, quarterly dividends were paid on this stock at an annual rate of between 15 per cent and 20 per cent, but the company's surplus increased by $2,347,614, so that on December 31, 1916, it had a large surplus over its $3,000,000 capital stock. On December 15, 1916, the company issued a circular to the stockholders, saying:

"The company's business for this year has shown a very good increase in volume and a proportionate increase in profits, and it is estimated that by January 1, 1917, the company will have a surplus of over $4,000,000. The board feels justified in stating that if the proposition to increase the capital stock is acted on favorably, it will be proper in the near future to declare a cash dividend of 100 per cent; and to allow the stockholders the privilege pro rata according to their holdings, to purchase the new stock at par, the plan being to allow the stockholders, if they desire, to use their cash dividend to pay for the new stock."

The increase of stock was voted. The company then paid a cash dividend of 100 per cent, payable May 1, 1917, again offiering to such stockholders the right to subscribe for an equal amount of new stock at par and to apply the cash dividend in payment therefor.

Moody's Manual, describing the transaction with exactness, says first that the stock was increased from $3,000,000 to $6,000,000, "a cash dividend of 100 per cent, payable May 1, 1917, being exchanged for one share of new stock, the equivalent of a 100 per cent stock dividend." But later in the report giving, as customary in the *Manual,* the dividend record of the company, the *Manual* says: "A stock dividend of 200 per cent was paid February 14, 1914, and one of 100 per cent on May 1, 1917." And in reporting specifically the income account of the company for a series of years ending December 31, covering net profits, dividends paid and surplus for the year, it gives as the aggregate of dividends for the year 1917, $660,000 (which was the aggregate paid on the quarterly cash dividend—5 per cent January and April; 6 per cent July and October); and adds in a note: "In addition a stock dividend of 100 per cent was paid during the year." *The Wall Street Journal* of May 2, 1917, p. 2, quotes the 1917 "High" price for Standard Oil of Kentucky as "375 Ex. Stock Dividend."

It thus appears that among financiers and investors the distribution of the stock by whichever method effected is called a stock dividend; that the two methods by which accumulated profits are legally retained for corporate purposes and at the same time distributed as dividends are recognized by them to be equivalents; and that the financial results to the corporation and to the stockholders of the two methods are substantially the same—unless a difference results from the application of the federal income tax law.

Mrs. Macomber, a citizen and resident of New York, was, in the year 1916, a stockholder in the Standard Oil Company (of California), a corporation organized under the laws of California and having its principal place of business in that state. During that year she received from the company a stock dividend representing profits earned since March 1, 1913. The dividend was paid by direct issue of the stock to her according to the simple method described above, pursued also by the Indiana and Nebraska companies. In 1917 she was taxed under the federal law on the stock divi-

dend so received at its par value of $100 a share, as income received during the year 1916. Such a stock dividend is income as distinguished from capital, both under the law of New York and under the law of California; because in both states every dividend representing profits is deemed to be income whether paid in cash or in stock. It had been so held in New York, where the question arose as between life-tenant and remainderman, *Lowery v. Farmers Loan & Trust Company*, 172 N. Y. 137; *Matter of Osborne*, 209 N. Y. 450; and also, where the question arose in matters of taxation; *People v. Glynn*, 130 N. Y. App. Div. 332; 198 N. Y. 605. It has been so held in California, where the question appears to have arisen only in controversies between life-tenant and remainderman. *Estate of Duffill*, 58 Cal. Dec. 97; 183 Pac. 337.

It is conceded that if the stock dividend paid to Mrs. Macomber had been made by the more complicated method pursued by the Standard Oil Company of Kentucky; that is, issuing rights to take new stock pro rata and paying to each stockholder simultaneously a dividend in cash sufficient in amount to enable him to pay for this pro rata of new stock to be purchased—the dividend so paid to him would have been taxable as income, whether he retained the cash or whether he returned it to the corporation in payment for his pro rata of new stock. But it is contended that, because the simple method was adopted of having the new stock issued direct to the stockholders as paid-up stock, the new stock is not to be deemed income, whether she retained it or converted it into cash by sale. If such a different result can flow merely from the difference in the method pursued, it must be because congress is without power to tax as income of the stockholder either the stock received under the latter method or the proceeds of its sale; for congress has, by the provisions in the revenue act of 1916, expressly declared its purpose to make stock dividends, by whichever method paid, taxable as income.

The sixteenth amendment proclaimed February 25, 1913, declares:

"The congress shall have power to lay and collect taxes on incomes from whatever source derived, without apportionment among the several states and without regard to any census or enumeration."

The revenue act of September 8, 1916, c. 463, 39 Stat. 756, 757, provided:

"That the term 'dividends' as used in this title shall be held to mean any distribution made or ordered to be made by a corporation, . . . out of its earnings or profits accrued since March first, nineteen hundred and thirteen, and payable to its shareholders, whether in cash or in stocks of the corporation . . . which dividend shall be considered income, to the amount of its cash value."

Hitherto powers conferred upon congress by the constitution have been liberally construed, and have been held to extend to every means appropriate to attain the end sought. In determining the scope of the power the substance of the transaction, not its form, has been regarded. *Martin v. Hunter*, 1, *Wheaton* 304, 326; *McCullough v. Maryland*, 4 *Wheaton* 316, 407, 415; *Brown v. Maryland*, 12 Wheaton 419, 446; *Craig v. Missouri*, 4 Pet. 410, 433; *Jarrolt v. Moberly*, 103 U. S. 580, 585, 587; *Legal Tender Case*, 110 U. S. 421, 444; *Lithograph Co. v. Sarony*, 111 U. S. 53, 58; *United States v. Realty Co.*, 163 U. S. 427, 440, 441, 442; *South Carolina v. United States*, 199 U. S. 437, 448-9. Is there anything in the phraseology of the sixteenth amendment or in the nature of corporate dividends which should lead to a departure from these rules of construction and compel this court to hold, that congress is powerless to prevent a result so extraordinary as that here contended for by the stockholder?

First: The term "income," when applied to the investment of the stockholder in a corporation, had, before the adoption of the sixteenth amendment, been commonly understood to mean the returns from time to time received by the stockholder from gains or earnings of the corporation. A dividend

received by a stockholder from a corporation may be either in distribution of capital assets or in distribution of profits. Whether it is the one or the other is in no way affected by the medium in which it is paid, nor by the method or means through which the particular thing distributed as a dividend was procured. If the dividend is declared payable in cash, the money with which to pay it is ordinarily taken from surplus cash in the treasury. But (if there are profits legally available for distribution and the law under which the company was incorporated so permits) the company may raise the money by discounting negotiable paper; or by selling bonds, scrip or stock of another corporation then in the treasury; or by selling its own bonds, scrip or stock then in the treasury; or by selling its own bonds, scrip or stock issued expressly for that purpose. How the money shall be raised is wholly a matter of financial management. The manner in which it is raised in no way affects the question whether the dividend received by the stockholder is income or capital; nor can it conceivably affect the question whether it is taxable as income.

Likewise whether a dividend declared payable from profits shall be paid in cash or in some other medium is also wholly a matter of financial management. If some other medium is decided upon, it is also wholly a question of financial management whether the distribution shall be, for instance, in bonds, scrip or stock of another corporation or in issues of its own. And if the dividend is paid in its own issues, why should there be a difference in result dependent upon whteher the distribution was made from such securities then in the treasury or from others to be created and issued by the company expressly for that purpose? So far as the distribution may be made from its own issues of bonds, or preferred stock created expressly for the purpose, it clearly would make no difference in the decision of the question whether the dividend was a distribution of profits, that the securities had to be created expressly for the purpose of distribution. If a dividend paid in securities of that nature represents a distribution of profits congress may, of course, tax it as income of the stockholder. Is the result different where the security distributed is common stock?

Suppose that a corporation having power to buy and sell its own stock, purchases, in the interval between its regular dividend dates, with monies derived from current profits, some of its own common stock as a temporary investment, intending at the time of purchase to sell it before the next dividend date and to use the proceeds in paying dividends, but later, deeming it inadvisable either to sell this stock or to raise by borrowing the money necessary to pay the regular dividend in cash, declares a dividend payable in this stock—can anyone doubt that in such a case the dividend in common stock would be income of the stockholder and constitutionally taxable as such? See *Green v. Bissell,* 79 Conn. 547; *Leland v. Hayden,* 102 Mass. 542. And would it not likewise be income of the stockholder subject to taxation if the purpose of the company in buying the stock so distributed had been from the beginning to take it off the market and distribute it among the stockholders as a dividend, and the company actually did so? And proceeding a short step further: Suppose that a corporation decided to capitalize some of its accumulated profits by creating additional common stock and selling the same to raise working capital, but after the stock has been issued and certificates therefor are delivered to the bankers for sale, general financial conditions make it undesirable to market the stock, and the company concludes that it is wiser to husband, for working capital, the cash which it had intended to use in paying stockholders a dividend, and, instead, to pay the dividend in the common stock which it had planned to sell: Would not the stock so distributed be a distribution of profits—and, hence, when received, be income of the stockholder and taxable as such? If this be conceded, why should it not be equally income of the stockholder, and taxable as such, if the common stock created by capitalizing profits had been originally

created for the express purpose of being distributed as a dividend to the stockholder who afterwards received it?

Second: It has been said that a dividend payable in bonds or preferred stock created for the purpose of distributing profits may be income and taxable as such, but that the case is different where the distribution is in common stock created for that purpose. Various reasons are assigned for making this distinction. One is that the proportion of the stockholder's ownership to the aggregate number of the shares of the company is not changed by the distribution. But that is equally true where the dividend is paid in its bonds or in its preferred stock. Furthermore, neither maintenance nor change in the proportionate ownership of a stockholder in a corporation has any bearing upon the question here involved. Another reason assigned is that the value of the old stock held is reduced approximately by the value of the new stock received, so that the stockholder after receipt of the stock dividend has no more than he had before it was paid. That is equally true whether the dividend be paid in cash or in other property; for instance, bonds, scrip or preferred stock of the company. The payment from profits of a large cash dividend, and even a small one, customarily lowers the then market value of stock because the undivided property represented by each share has been correspondingly reduced. The argument which appears to be most strongly urged for the stockholders is, that when a stock dividend is made, no portion of the assets of the company is thereby segregated for the stockholder. But does the issue of new bonds or of preferred stock created for use as a dividend result in any segregation of assets for the stockholder? In each case he receives a piece of paper which entitles him to certain rights in the undivided property. Clearly segregation of assets in a physical sense is not an essential of income. The year's gains of a partner is taxable as income, although there, likewise, no segregation of his share in the gains from that of his partners is had.

The objection that there has been no segregation is presented also in another form. It is argued that until there is a segregation, the stockholder cannot know whether he has really received gains; since the gains may be invested in plant or merchandise or other property and perhaps be later lost. But is not this equally true of the share of a partner in the year's profits of the firm or, indeed, of the profits of the individual who is engaged in business alone? And is it not true, also, when dividends are paid in cash? The gains of a business, whether conducted by an individual, by a firm or by a corporation, are ordinarily reinvested in large part. Many a cash dividend honestly declared as a distribution of profits proves later to have been paid out of capital, because errors in forecast prevent correct ascertainment of values. Until a business adventure has been completely liquidated, it can never be determined with certainty whether there have been profits unless the returns have at least exceeded the capital orginally invested. Business men, dealing with the problem practically, fix necessarily periods and rules for determining whether there have been net profits—that is, income or gains. They protect themselves from being seriously misled by adopting a system of depreciation charges and reserves. Then they act upon their own determination whether profits have been made. Congress in legislating has wisely adopted their practices as its own rules of action.

Third: The government urges that it would have been within the power of congress to have taxed as income of the stockholder his pro rata share of undistributed profits earned, even if no stock dividend representing it had been paid. Strong reasons may be assigned for such a view. See *The Collector v. Hubbard,* 12 Wall. 1. The undivided share of a partner in the year's undisturbed profits of his firm is taxable as income of the partner, although the share in the gain is not evidenced by any action taken by the firm. Why may not the stockholder's interest in the gains of the company? The law finds no difficulty in disregarding the corporate fiction whenever

that is deemed necessary to attain a just result. *Linn Timber Co. v. United States,* 236 U. S. 574; see Morawetz on *Corporations* (2d ed.), secs. 227-231; Cook on *Corporations* (7th ed.), secs. 663, 664. The stockholder's interest in the property of the corporation differs, not fundamentally but in form only, from the interest of a partner in the property of the firm. There is much authority for the proposition that, under our law, a partnership or joint stock company is just as distinct and palpable an entity in the idea of the law, as distinguished from the individuals composing it, as is a corporation. No reason appears why congress, in legislating under a grant of power so comprehensive as that authorizing the levy of an income tax, should be limited by the particular view of the relation of the stockholder to the corporation and its property which may, in the absence of legislation, have been taken by this court. But we have no occasion to decide the question whether congress might have taxed to the stockholder his undivided share of the corporation's earnings. For congress has in this act limited the income tax to that share of the stockholder in the earnings which is, in effect, distributed by means of the stock dividend paid. In other words, to render the stockholder taxable there must be both earnings made *and* a dividend paid. Neither earnings without dividend—nor a dividend without earnings—subjects the stockholder to taxation under the revenue act of 1916.

Fourth: The equivalency of all dividends representing profits, whether paid in cash or in stock, is so complete that serious question of the taxability of stock dividends would probably never have been made, if congress had undertaken to tax only those dividends which represented profits earned during the year in which the dividend was paid or in the year preceding. But this court, construing liberally not only the constitutional grant of power but also the revenue act of 1913, held that congress might tax, and had taxed, to the stockholder dividends received during the year, although earned by the company long before, and even prior to the adoption of the sixteenth amendment. *Lynch v. Hornby,* 247 U. S. 339. That rule, if indiscriminately applied to all stock dividends representing profits earned, might, in view of corporate practice, have worked considerable hardship, and have raised serious questions. Many corporations, without legally capitalizing any part of their profits, had assigned definitely some part or all of the annual balances remaining after paying the usual cash dividends, to the uses to which permanent capital is ordinarily applied. Some of the corporations doing this transferred such balances on their books to "surplus" account—distinguishing between such permanent "surplus" and the "undivided profits" account. Other corporations, without this formality, had assumed that the annual accumulating balances carried as undistributed profits were to be treated as capital permanently invested in the business. And still others, without definite assumption of any kind, had so used undivided profits for capital purposes. To have made the revenue law apply retroactively so as to reach such accumulated profits, if and whenever it should be deemed desirable to capitalize them legally by the issue of additional stock distributed as a dividend to stockholders, would have worked great injustice. Congress endeavored in the revenue act of 1916 to guard against any serious hardship which might otherwise have arisen from making taxable stock dividends representing accumulated profits. It did not limit the taxability to stock dividends representing profits earned within the tax year or in the year preceding; but it did limit taxability to such dividends representing profits earned since March 1, 1913. Thereby stockholders were given notice that their share also in undistributed profits accumulating thereafter was at some time to be taxed as income. And congress sought by section 3 to discourage the postponement of distribution for the illegitimate purpose of evading liability to surtaxes.

Fifth: The decision of this court, that earnings made before the adoption of the sixteenth amendment but paid out in cash dividend after its

adoption were taxable as income of the stockholder, involved a very liberal construction of the amendment. To hold now that earnings both made and paid out after the adoption of the sixteenth amendment cannot be taxed as income of the stockholder, if paid in the form of a stock dividend, involves an exceeding narrow construction of it. As said by Mr. Chief Justice Marshall in *Brown v. Maryland,* 12 Wheat. 419, 446: "To construe the power so as to impair its efficacy, would tend to defeat an object, in the attainment of which the American public took, and justly took, the strong interest which arose from a full conviction of its necessity."

No decision heretofore rendered by this court requires us to hold that congress, in providing for the taxation of stock dividends, exceeded the power conferred upon it by the sixteenth amendment. The two cases mainly relied upon to show that this was beyond the power of congress are *Towne v. Eisner,* 245 U. S. 418, which involved a question not of constitutional power but of statutory construction, and *Gibbons v. Mahon,* 136 U. S. 549, which involved a question arising between life-tenant and remainderman. So far as concerns *Towne v. Eisner* we have only to bear in mind what was there said (p. 425): "But it is not necessarily true that income means the same thing in the constitution and the [an] act." *Gibbons v. Mahon* is even less an authority for a narrow construction of the power to tax incomes conferred by the sixteenth amendment. In that case the court was required to determine how, in the administration of an estate in the District of Columbia, a stock dividend, representing profits, received after the decedent's death, should be disposed of as between life-tenant and remainderman. The question was in essence: What shall the intention of the testator be presumed to have been? On this question there was great diversity of opinion and practice in the courts of English-speaking countries. Three well-defined rules were then competing for acceptance; two of these involves an arbitrary rule of distribution, the third equitable apportionment. See Cook on *Corporations* (7th ed.), sections 552-558.

1. The so-called English rule, declared in 1799, by *Brander v. Brander,* 4 Ves. Jr. 800, that a dividend representing profits, whether in cash, stock or other property, belongs to the life-tenant if it was a regular or ordinary dividend, and belongs to the remainderman if it was an extraordinary dividend.

2. The so-called Massachusetts rule, declared in 1868 by *Minot v. Paine,* 99 Mass. 101, that a dividend representing profits, whether regular, ordinary or extraordinary, if in cash belongs to the life-tenant, and if in stock belongs to the remainderman.

3. The so-called Pennsylvania rule declared in 1857 by *Earp's Appeal,* 28 Pa. St. 368, that where a stock dividend is paid, the court shall inquire into the circumstances under which the fund had been earned and accumulated out of which the dividend, whether a regular, an ordinary or an extraordinary one, was paid. If it finds that the stock dividend was paid out of profits earned since the decedent's death, the stock dividend belongs to the life-tenant; if the court finds that the stock dividend was paid from capital or from profits earned before the decedent's death, the stock dividend belongs to the remainderman.

This court adopted in *Gibbons v. Mahon* as the rule of administration for the District of Columbia the so-called Massachusetts rule, the opinion being delivered in 1890 by Mr. Justice Gray. Since then the same question has come up for decision in many of the states. The so-called Massachusetts rule, although approved by this court, has found favor in only a few states. The so-called Pennsylvania rule, on the other hand, has been adopted since by so many of the states (including New York and California) that it has come to be known as the "American rule." Whether, in view of these facts and the practical results of the operation of the two rules as shown by the experience of the thirty years which have elapsed since the decision in

Gibbons v. Mahon, it might be desirable for this court to reconsider the question there decided, as some other courts have done (see 29 Harvard Law Review, 551), we have no occasion to consider in this case. For, as this court there pointed out (p. 560), the question involved was one "between the owners of successive interests in particular shares," and not, as in *Bailey v. Railroad Co.*, 22 Wall. 604, a question "between the corporation and the government, and [which] depended upon the terms of a statute carefully framed to prevent corporations from evading payment of the tax upon their their earnings."

We have, however, not merely argument, we have examples which should convince us that "there is no inherent, necessary and immutable reason why stock dividends should always be treated as capital." *Tax Commissioner v. Putnam*, 227 Mass. 522, 533. The supreme judicial court of Massachusetts has steadfastly adhered, despite ever-renewed protest, to the rule that every stock dividend is, as between life-tenant and remainderman, capital and not income. But in construing the Massachusetts income-tax amendment, which is substantially identical with the federal amendment, that court held that the legislature was thereby empowered to levy an income tax upon stock dividends representing profits. The courts of England have, with some relaxation, adhered to their rule that every extraordinary dividend is, as between life-tenant and remainderman, to be deemed capital. But in 1913 the judicial committee of the privy council held that a stock dividend representing accumulated profits was taxable like an ordinary cash dividend, *Swan Brewery Company, Limited, v. The King*, L. R. (1914) A. C. 231. In dismissing the appeal these words of the chief justice of the supreme court of Western Australia were quoted (p. 236) which show that the facts involved were identical with those in the case at bar: "Had the company distributed the £101,450 among the shareholders, and had the shareholders repaid such sums to the company as the price of the 81,160 new shares, the duty on the £101,450 would clearly have been payable. Is not this virtually the effect of what was actually done? I think it is."

Sixth: If stock dividends representing profits are held exempt from taxation under the sixteenth amendment, the owners of the most successful businesses in America will, as the facts in this case illustrate, be able to escape taxation on a large part of what is actually their income. So far as their profits are represented by stock received as dividends they will pay these taxes not upon their income but only upon the income of their income. That such a result was intended by the people of the United States when adopting the sixteenth amendment is inconceivable. Our sole duty is to ascertain their intent as therein expressed. In terse, comprehensive language befitting the constitution, they empowered congress "to lay and collect taxes on incomes from whatever source derived." They intended to include thereby everything which by reasonable understanding can fairly be regarded as income. That stock dividends representing profits are so regarded, not only by the plain people but by investors and financiers, and by most of the courts of the country, is shown, beyond peradventure, by their acts and by their utterances. It seems to me clear, therefore, that congress possesses the power which it exercised to make dividends representing profits, taxable as income, whether the medium in which the dividend is paid be cash or stock, and that it may define, as it has done, what dividends representing profits shall be deemed income. It surely is not clear that the enactment exceeds the power granted by the sixteenth amendment. And, as this court has so often said, the high prerogative of declaring an act of congress invalid, should never be exercised except in a clear case. "It is but a decent respect due to the wisdom, the integrity, and the patriotism of the legislative body, by which any law is passed, to presume in favor of its validity, until its violation of the constitution is proved beyond a reasonable doubt." *Ogden v. Saunders*, 12 *Wheaton* 213, 270.

Mr. Justice HOLMES delivered the following opinion:

I think that *Towne v. Eisner*, 245 U. S. 418, was right in its reasoning and result and that on sound principles the stock dividend was not income. But it was clearly intimated in that case that the construction of the statute then before the court might be different from that of the constitution. 245 U. S. 425. I think that the word "incomes" in the sixteenth amendment should be read in "a sense most obvious to the common understanding at the time of its adoption." *Bishop v. State*, 149 Ind. 223, 230; *State v. Butler*, 70 Fla. 102, 133. For it was for public adoption that it was proposed. *M'Culloch v. Maryland*, 4 *Wheat*. 316, 407. The known purpose of this amendment was to get rid of nice questions as to what might be direct taxes, and I cannot doubt that most people not lawyers would suppose when they voted for it that they put a question like the present to rest. I am of opinion that the amendment justifies the tax. See *Tax Commissioner v. Putnam*, 227 Mass. 522, 532, 533.

Mr. Justice DAY concurs in this opinion.

Students' Department

EDITED BY SEYMOUR WALTON

(ASSISTED BY H. A. FINNEY)

LAWYER *vs.* ACCOUNTANT IN PARTNERSHIP LIQUIDATION

Accountants and lawyers frequently differ radically in their ideas of the proper basis on which to divide the assets of a partnership when it is closed, either by liquidation or by a sale to a corporation for shares of stock. The following problem was given in the Ohio C. P. A. examination in October, 1919. The following correspondence ensued between us and a man who sat in the examination, whom we designate as "Candidate":

Problem

J. B. Brown and L. C. Smith are partners, and in order to raise more capital and to preserve the organization they decide to incorporate. A company was duly incorporated under the name of the Eclipse Company, with an authorized capital of $800,000.00, divided into 8,000 shares of the par value of $100.00 each.

The partners agreed to sell for the sum of $800,000.00, payable in capital stock of the corporation at par, all rights to and title in the net assets of the partnership, exclusive of the cash, which was divided between the partners in proportion to their several interests at the time of the sale of the property.

According to the articles of partnership Brown and Smith were equally interested in the assets, but the profits and losses were on a basis of 60% and 40%, respectively.

The partnership balance-sheet at the time of sale was:

Land and buildings	$200,000.00
Cash	10,000.00
Inventories	100,000.00
Accounts receivable	150,000.00
Machinery and equipment	100,000.00
Total	$560,000.00
Notes payable	$100,000.00
Accounts payable	40,000.00
Brown's capital	210,000.00
Smith's capital	210,000.00
Total	$560,000.00

For the purpose of providing working capital the partnership donated $300,000.00 of the capital stock to the corporation, which was subsequently sold at $50.00 per share.

You are required to close the partnership books, showing ledger accounts of partners only; open corporation books; prepare balance-sheet of the corporation before sale of donated stock; prepare a balance-sheet after sale of donated stock.

Editor, Students' Department:

SIR: Accept my apology for addressing you. However, I wish to submit for your consideration a friendly controversy which has arisen between another accountant and myself, and I sincerely trust I may receive your opinion as to the question growing out of the problem hereto attached.

My friend contends that the net assets of $410,000.00 are sold for $800,000.00, par value of stock, whereby a goodwill is created to the extent of $390,000.00, which is reduced by $300,000.00 when the partners return that amount of the par value of the stock, leaving $90,000.00 "profit" to be divided 60% and 40% between Brown and Smith, respectively.

I contend that the transaction amounts to the partners' adding $150,000.00 cash to $410,000.00 net assets, total $560,000.00, of which they sell an equity representing three-eighths, or $210,000.00, for $150,000.00, which entails a "loss" of $60,000.00 to the partners; and, that in the absence of express agreement, it is incorrect and unjust to change from the use of the money or gold standard of measure of value to a corporation-stock-par-value measure of value, especially when the stock of such company sells for one-half of its par value.

Trusting that you will favor me with your opinion as to which is the correct, just and reasonable of the above two contentions, stating your reasons therefor, I beg to remain,

Yours truly,
CANDIDATE.

To this we replied by mail on December 1, 1919:

Like the majority of contracts of this character, that of Brown and Smith is lacking in one of the essential conditions. There is no information as to the basis for the valuation of the stock to be divided between them. It is not even stated that the goodwill of the firm was valued at $90,000.00. The result is that there are three possible solutions:

(a) The stock may be taken as worth what is paid for it;
(b) The stock may be taken over at par;
(c) The stock may be taken as worth only 50 cents on the dollar, although there does not appear to be anything at the time of the transfer that would indicate such a value.

As the donation of $300,000.00 of the stock must have been part of the agreement of the re-organization, the net receipt of $500,000.00 of stock is taken as the basis of all the calculations.

(a) Brown and Smith realized $500,000.00 of stock for the net worth of $410,000.00, making the stock worth 82. If taken over by the partners at this rate, there was no profit or loss to be divided. Each partner would receive:

Cash	$ 5,000.00	
Stock, 2,500 shares, at 82	205,000.00	$210,000.00

(b) Acquiring $500,000.00 of stock for net assets of $410,000.00 would imply a profit of $90,000.00. Of this Brown would get credit for 60%, or $54,000.00, raising his capital to $264,000.00, and Smith would receive 40%, or $36,000.00, making his capital $246,000. Their proportionate holdings therefore would be 264/510 and 246/510, with cash $10,000 and stock $500,000 to divide.

Of the cash Brown would get 44/85, or...........	$ 5,176.47	
Smith would get 41/85, or......................	4,823.53	$ 10,000.00
Of the stock on the same basis Brown would get...$	258,823.50	
Smith would get..............................	241,176.50	$500,000.00

(c) With the stock taken over at a valuation of $50.00 per share, a value of $250,000.00 would have been received for net assets of $410,000.00, involving a loss of $160,000. Of this, 60%, or $96,000.00, would be charged to Brown, reducing his capital to $114,000.00, and 40%, or $64,000.00, charged to Smith, making his capital $146,000. Their proportionate holdings would be 114/260 and 146/260, respectively. On this basis:

Of the cash Brown would get..................	$ 4,384.62	
Smith would get..............................	5,615.38	$10,000.00
Of the stock Brown would get $219,230.77 worth..	$109,615.38	
Smith would get $280,769.23 worth.............	140,384.62	$250,000.00

This last settlement probably need not be considered, as the partners would not have been likely to sell out on any such basis. It is impossible to decide between the other two without knowing more about the situation as viewed by the partners. It is probable that the (b) settlement was the one contemplated, as it gives at least a nominal value to the goodwill.

In any event the partners, as a firm, had nothing to do with the $150,000.00 of cash received for the donated stock. The stock was sold by the corporation. As the firm did not receive the money it could not have added it to the net assets, which were sold for $500,000 in stock. It would be rather difficult to show how the firm could donate stock to the corporation and at the same time take the proceeds of that stock and use it to pay for the remainder of the stock. It is especially difficult in this case, since the stock was not sold until "subsequently"; that is, after the transfer of the business.

We will not waste space to give the closing entries of the partnership, as they are easy. The opening entries of the corporation would be (explanations being omitted as obvious):

Subscribers (Brown & Smith)..	$800,000.00	
Capital stock		$800,000.00
Assets—detailed	550,000.00	
Goodwill	390,000.00	
Liabilities—detailed		140,000.00
Subscribers		800,000.00
Treasury stock	300,000.00	
Working capital		300,000.00

Cash	$150,000.00	
Discount on stock	150,000.00	
Treasury stock		$300,000.00
Working capital	300,000.00	
Discount on stock		150,000.00
Goodwill		150,000.00

The last entry is justified by the fact that the donation of the stock is a confession that the concern is overcapitalized, thus necessitating the enormous charge to goodwill. The fact that the stock sold at 50 would indicate such a poor condition that the existence of any goodwill is more than doubtful, and that it is virtually impossible that it should be worth nearly half the total capitalization.

We condense the balance-sheets of the corporation:

Tangible assets	$550,000.00	Capital stock	$800,000.00	
Goodwill	390,000.00	Less treasury	300,000.00	$500,000.00
		Working capital		300,000.00
		Liabilities		140,000.00
	$940,000.00			$940,000.00

After the donated stock was sold, other things being equal:

Cash	$150,000.00	Capital stock	$800,000.00
Other tangible assets	550,000.00	Liabilities	140,000.00
Goodwill	240,000.00		
	$940,000.00		$940,000.00

We have included the sale of the treasury stock among the opening entries; but it does not really belong there, as it did not take place until some time afterwards.

To this Candidate answered, under date of December 2, 1919.

Editor, Students' Department:

SIR: This problem was given by the state board of accountancy of Ohio, at Columbus, Ohio, on Wednesday, October 15, 1919, at which time I answered the problem by dividing the $90,000.00 of stock between the partners on a 60% and 40% basis, and treated the corporation affairs as you do, so that if the stock was sold for $150,000.00 then the goodwill was reduced that much.

I attached a note to my solution which was handed to the board, stating, in effect, that I gave the partnership solution as I felt that it was what they wanted, but if the partner receiving the 40% share was dissatisfied, it was my opinion that no court would sustain such division upon presentation of no more than was contained in the problem itself.

On the evening of October 15, 1919, I spoke to the examiners, and they advised me that I had answered the problem correctly, and that there was no merit to my opinion that the partners should divide the stock equally. However, with no more information than is given in the problem it is my opinion that any division of the net stock received, other than on an equal basis, is unjust.

Question: With nothing more than is given in the problem is it just to divide the stock received on any other basis than an equal one?

If you so desire, I will send you the argument of an attorney in favor of an equal division.

Yours truly,
CANDIDATE.

Our reply was as follows:

In answer to your question of December 2nd we most emphatically say that in our opinion it would be absolutely unjust to divide the stock equally, except under hypothesis (a) of our letter of December 1st.

Profits must always be divided in the ratio agreed upon in the articles of partnership.

In liquidation, assets must be divided in the ratio of the capital accounts of the partners as they exist at the time of the division.

If the articles of partnership stated that Brown and Smith were to have an equal interest in the assets when their capitals were not equal, the provision called for an impossibility, and was just as much void as if it stated that 6 and 4 should be equal to only 8. All that this provision in the articles would mean would be that Brown was to be allowed to draw out enough to make his capital the same as Smith's. When profits had been credited to their capital accounts, Brown could draw two-thirds of his profits in addition to drawing as much as Smith on personal accounts.

We shall be very glad to receive the argument in favor of an equal division of the stock.

In reply to this the following argument was sent:

At the time the business is sold let us say the partnership books stand—

Tangible assets	
$410,000.00	

Brown	
	$205,000.00

Smith	
	$205,000.00

and it is discovered by the price offered that the profits have been such during the past that an intangible value has been developed, so that there stands reserved for the use of the partners goodwill which will be paid for in cash (to make it absolute that the goodwill is really there). We may say, for the present, that the books of the business stand

Tangible assets	
$410,000.00	

Brown	
	$205,000.00

Goodwill	
$ 90,000.00	

Smith	
	$205,000.00

Reserve for goodwill	
	$ 90,000.00

Next, the goodwill becomes tangible, becomes money itself, and the question is:

If, according to the articles of partnership, Brown and Smith were equally interested in the assets, but the profits and losses were on a basis of 60% and 40%, respectively, how to divide the $90,000.00, above identified, as "reserve for goodwill"?

It is fair to assume that prior to the time of the sale this business produced a profit in excess of what might be styled an "ordinary profit" on its net investment.

"The goodwill of a partnership may be said in a general way to be the value of its business, over and above the value of its tangible assets, and which has grown out of the firm name, trade worked up, and publicity obtained," and "by its very nature its value depends on earnings of a certain amount being maintained."—Montgomery, *Auditing, Theory and Practice* (1919), page 123.

Therefore, in the past the profit that this intangible value (over and above the value of the tangible assets) produced was divided 60% and 40% between Brown and Smith, respectively, and with this in mind let us perform some unusual accounting, as follows:

Suppose as the intangible asset of goodwill accrued (being evidenced by part of the profit which can be identified as resulting from that accruing goodwill) the partners had from time to time set up the accruing goodwill by charging goodwill and crediting the partners on the basis of 60% and 40%, and at the same time, conservatively, profit and loss had been charged with a similar amount credited to an account identified as "reserve for goodwill valuation."

Now, indefinite time having passed, we arrive at the point when the goodwill is to become cash and we find our books to stand

Tangible assets	
$500,00.00	

Brown	
	$105,000.00

Goodwill	
$ 90,000.00	

Brown a/c goodwill	
	$ 54,000.00

Smith	
	$105,000.00

Smith a/c goodwill	
	$ 36,000.00

Reserve for goodwill	
	$ 90,000.00

the partners not having drawn out their profits from the goodwill; which if already or when drawn by the partners establishes the books as follows:

Tangible assets	
$410,000.00	

Goodwill	
$ 90,000.00	

Brown	
	$205,000.00

Smith	
	$205,000.00

Reserve for goodwill	
	$ 90,000.00

After the sale for cash (to make it absolutely certain that the assets fully measure their stated values) the books would stand

Cash	
$500,000.00	

Brown	
	$205,000.00

Smith	
	$205,000.00

Reserve for goodwill	
	$ 90,000.00

The partners are "equally interested in the assets" or $500,000.00, and the "reserve for goodwill" was created by deductions from the profits as the goodwill accrued and was distributed, with other profits, 60% and 40%, to Brown and Smith, respectively, the purpose of the reserve being to avail itself as capital set aside from profits (equal in amount to the accruing

goodwill divided by the partners), so that if the goodwill distributed to and enjoyed by the partners would not materialize, then the loss would no more than equal the reserve established to care for the happening of that very contingency.

The partners enjoyed the goodwill and the profit of the partnership during the lifetime of the partnership, 60% and 40%, to Brown and Smith, respectively, and goodwill is reflected in profits. Upon the death of the partnership the goodwill realizes $90,000.00 profits, not because Brown and Smith have for some time past enjoyed profits ascribed to that goodwill, but because the purchaser believes that future profits will be traced to that goodwill.

It is unreasonable to claim that because Brown enjoyed 60% of past profits, he should, therefore, receive 60% of the sum received for the sale of the partnership successor's "hope for future profits," when the partners are "equally interested in the assets." Brown has received 60% of the goodwill before the sale is made, and to divide the $90,000.00 received for the goodwill as a profit in effect divides the same thing twice.

It may be argued that no profit had been made by the partnership. But if there was no partnership profit no one would pay for any goodwill. Of course, in practice we will always have all of the circumstances for consideration.

In this problem the partners are re-establishing themselves, and it will be only natural that they regard the affairs of the partnership ended before the sale, and that each will be entitled to one-half of the net assets and what the net assets produce.

But if it is insisted by the partner entitled to 60% of the profits that the sale of the joint interest to a corporation (wherein the same partners own all, or a controlling interest, of the stock, and especially where the state of affairs is as stated in the problem) is such a transaction that it produces a profit, then Smith can sue for an accounting and a dissolution of the partnership.

A court would not permit an inventory appraisement of the Eclipse Company stock at its par value, in the circumstances recited in the problem. Three things are generally considered in placing value on corporation stock.

First: The net equity which the stock represents.

Second: Recent sales of the stock.

Third: Profit earned.

From the problem we can only consider the first; if we consider that the corporation sells stock at a 50% discount, Brown's position is further impaired.

In my opinion Brown has more than Smith to gain by dividing the stock equally, because, if we consider what is happening, we find that Brown is insisting upon changing from a money standard to one of less value, camouflaging what is actually transpiring by bookkeeping entries that in the circumstances can lead to criticism, and we discover that the partners' actual loss on the entire transaction is $60,000.00.

Therefore, by attempting to obtain 60% of the value given for goodwill in the employment of such method, Brown would be estopped from denying later on that in the re-establishment of the firm the gain or loss to the individual partners was to be divided on a 60% and 40% basis.

The internal revenue bureau would not regard any part of the stock received as income at the time the transaction occurred, as regulations 33 in this regard have not been materially changed by regulations 45, nor by anything subsequent thereto.

CANDIDATE.

Candidate is not only a practising attorney, he is also a certified public accountant, having passed the Ohio examination.

Our Reply

The fallacy in Candidate's ingenious opinion is so subtle that it is a little difficult to combat it in such a way as to be fully understood.

In the first place he clouds the issue by setting up the account "reserve for goodwill." There is absolutely no excuse for this account. When the partners decide to sell out to the corporation, they go over all their assets and decide on what basis they shall be turned over to the corporation. Let us assume that they find that the inventory, which has been valued at cost for the partnership accounts, is worth $10,000.00 more on the market. They have a right to demand market price for the inventory. It cannot be denied that this $10,000.00 is an additional profit to be divided between Brown and Smith in the ratio of 60 and 40.

In addition they discover another increase in their net worth by finding that they have an asset not hitherto taken account of by them, which it is now necessary to take into consideration, because they have arranged to sell it to the corporation for what are presumably good stock shares. Candidate says that this is not a profit to be divided, but must be offset by a reserve. If so, then the other newly-created asset, the addition to the inventory, is not a profit and must also be offset by a reserve. Merely because one asset is called market price of inventory and another is called goodwill does not change the fact that any increase in net worth (except contributions of new capital) is a profit, however it arises.

There are only two sides to the matter. If the goodwill is fictitious, it must not be put on the books at all. If it is real, it is a profit and must be divided between the partners. To set up goodwill as an asset and reserve for goodwill as an offsetting liability is to kill both accounts. There are accountants who, as soon as they discover an unusual profit, begin hunting for a reserve to cancel it, and, if they cannot find one, they invent one.

In his anxiety to prevent Messrs. Brown and Smith from getting any profit from the goodwill they have established, Candidate attempts to prove that they will collect the goodwill twice, once as current profits and again as enhanced value of the business. In doing so he shows that he does not understand the true nature of goodwill, although his own quotations might have given him a clue to it. Both of them show that it is based upon past experience, but that its value consists in future expectations. That is:

Goodwill represents the hope of abnormal profits in the future, not the memory of such profits in the past.

If this is the case, Candidate is in error when he says in regard to the setting up from time to time of the accruing goodwill that, because the partners in the meantime have drawn out abnormal profits equal to the goodwill, "Brown has received 60% of the goodwill before the sale is made, and to divide the $90,000.00 received for the goodwill as a profit in effect divides the same thing twice."

The truth is that Brown does not and cannot receive 60% of the goodwill before the sale is made, or at least before the goodwill is placed on the books in anticipation of the sale and is treated as a profit of which Brown gets 60%. A concrete example is easier to understand than general statements.

Suppose that in 1917, B and S have been for ten years partners in a business whose normal net profits would be satisfactory at $12,000.00 a year. Their efforts have caused the net profits to be steady at $20,000.00. There is every reason to believe that the favorable conditions will last more than ten years longer. They conclude that they have a right to consider themselves entitled to a goodwill amounting to $24,000.00, three years' purchase of the excess profits, and make such an entry on December 31, 1917. In 1918 they again make $20,000.00. As we understand it, Candidate would claim that they had realized $8,000.00 of their goodwill, but they have done nothing of the kind. They have merely made their usual profit, and still have the same goodwill as they had before.

As long as the business continues prosperous, there is no possible way for them to divest themselves of the goodwill, except by selling it with the business to someone else. Until then they are in the position of a man trying to overtake his shadow while walking east on a sunny afternoon. As he constantly occupies the ground where his shadow was lying, only to find that it is still ahead of him—the same shadow but in a different location—so they are constantly absorbing the profits on which the goodwill is based, only to find that they are current profits and that the goodwill itself is still ahead of them—the same goodwill but covering other years.

When they finally sell the business they have no further interest in the future, and therefore they sell the interest that they did have—that is, the goodwill. Whether they have already mistakenly put the goodwill on the books or do so now in anticipation of the sale, it is now the realization of their share (by agreement) of the future profits, and like all other profits must be divided in the profit and loss sharing ratio. If the tangible assets are correctly valued at $200,000.00, they would receive $224,000.00 for the business. If their capital had been equal at $100,000.00 each, and the profit and loss sharing ratio was B 60% and S 40%, their capital accounts would now be

B capital	for tangible assets	$100,000.00	
	for goodwill	14,400.00	$114,400.00
S capital	for tangible assets	$100,000.00	
	for goodwill	9,600.00	109,600.00
	Total capital		$224,000.00

Candidate says that money, stock or whatever is received for the business must be divided equally between the partners, each receiving $112,000.00. This would underpay B and overpay S by $2,400.00. This may be good law, but it is not common sense, and is certainly very bad accounting. The introduction of the unscientific and untrustworthy account "reserve for goodwill" does not help the situation in the least.

There is another important point brought into the settlement between Brown and Smith which should have no bearing on that settlement. This

is the subsequent sale of the treasury stock at fifty cents on the dollar. Since the sale was made some time subsequent to the transfer of the stock to Brown and Smith, the price realized could not have been known at the time of the transfer. Assuming that the conditions have not changed, the only use that can be made of the price realized is that it is an indication of the value of the stock received by Brown and Smith. If the $500,000.00 of stock paid for the old business were worth only $250,000.00, it is manifest that the net assets nominally valued at $410,000.00 were worth only $250,000.00. But that value would have been determined by a proper appraisal of the net assets turned over. This would have been an account of the partnership and the entry for it would have appeared on the partnership books. It does not necessarily follow that this appraisal would have shown that the value of the net assets to the business as a going concern was only $250,000.00. Whatever value is determined must have been the basis of the transfer, and therefore must have been the value in the closing entries of the partnership. To put this value on the books would necessarily show a loss which must be divided between the partners in their profit and loss sharing ratio. If this loss is agreed to be $160,000.00, Brown would be charged with 60% of it, or $96,000.00, and Smith with 40%, or $64,000.00 This would reduce Brown's capital account to $109,000.00 and Smith's to $141,000.00. In the distribution of the stock, Brown would receive a face value of $218,000.00 and Smith would receive $282,000.00.

The upshot of the matter is that the two partners should have agreed on the valuation of the assets turned over to the new company; that this valuation should have been expressed on the books of the partnership; and that the resultant division of the stock received would be based on the partners' respective capital accounts as adjusted. This would give the proprietary interest of each partner in the business, and it is manifest that their interest in the assets expressed in shares of stock must be relatively the same as their respective interests when expressed as credit balances of their capital accounts.

What the basis of the settlement was is not disclosed in the problem. As far as all the facts given to us at the time of the transfer would indicate, the assets were worth their book value, and the partners sold assets actually worth $410,000.00 for stock which we so far had no reason to believe was worth less than $500,000.00.

Therefore they received $90,000.00 for the goodwill of the business, and this is the logical settlement to be adopted in answering the problem.

A Correction

We regret to say that in the March issue in answering the problem about the Chile branch of the American house, we overlooked the fact that the Chile branch current account contained also items of permanent investment in the construction of the Chile plant. Investments in fixed assets are always carried at their cost in both currencies and are not subject to adjustment for variations in exchange.

The account on the Chile books with "home office" should contain only current items, as the accounts representing the permanent investment are seldom, if ever, kept on the branch books.

Therefore we should have eliminated the construction account from the branch books entirely by an entry crediting construction account $23,750.00, pesos 120,000, and charging the home office account with these amounts. It would also have been better to have registered the shipments to the home office at their cost, irrespective of the current rate of exchange. This is almost certainly the way in which the company would have kept the accounts.

Following out these ideas, the accounts as previously given would now appear as follows:

Operations

		$	*Pesos*			$	*Pesos*
3/30	Cash	22,500	90,000	6/30	....	40,500	150,000
6/30	"	18,000	90,000	12/31	....	20,750	150,000
9/30	"	4,500	22,500		Invoice	10,000	60,000
9/30	"	11,250	67,500				
12/31	"	5,000	30,000				
12/31	Wages payable.	10,000	60,000				
		71,250	360,000			71,250	360,000
12/31	Balance	10,000	60,000				

Home Office

		$	*Pesos*			$	*Pesos*
6/30	Shipments	40,500	150,000	1/1	Cash	30,000	120,000
12/30	"	20,750	150,000	4/1	"	30,000	150,000
	Construction...	23,750	120,000	7/1	"	30,000	180,000
	Exchange to adjust	5,000	......	10/1	"	30,000	150,000
	Balance	30,000	180,000				
		120,000	600,000			120,000	600,000

Chile Trial Balance

	Dollars		Pesos	
Cash	30,000		180,000	
Wages payable.............		10,000		60,000
Inventory, nitrate...........	10,000		60,000	
Home office.................		30,000		180,000
	40,000	40,000	240,000	240,000

Owing to the fact that the debit to inventory and the credit to wages payable happen to be the same, the exchange adjustments balance.

On the home office trial balance there would appear a debit item of "Chile plant pesos 120,000, $23,750." Probably the other item would be "Chile current account pesos 180,000, $30,000," but the details of nitrate and wages payable credit might also be given.

The above correction was written before the March number of THE JOURNAL OF ACCOUNTANCY was out, but too late to make the change in that number.

It has been objected to this treatment of the cash on the Chile books that it changes the basis of the dollar cost of any permanent construction that may be paid out of this money. This would result in the valuation of a fixed asset different from its original cost.

This same objection might be urged against the use of a market price when lower than cost in valuing an inventory of material, such as lumber, an unknown part of which was to be used in construction and the rest in operation. To our knowledge it has never been suggested that this made an error in the cost of the future construction.

However, if the objection is sustained, the item of cash, $35,000, pesos 180,000, should be left unchanged, but a reserve for exchange $5,000.00 should be credited in place of the credit to cash. This reserve account should stand unchanged until the next balance-sheet date, when it would be again adjusted to meet the requirements prevailing at that time.

The accounts in New York would remain as stated.

DISCOUNTS ON CAPITAL EXPENDITURES

Editor, Students' Department:

SIR: (a) Will you please inform me as to what are the correct methods for recording in the books cash discounts on purchases and sales, when the merchandise involved is not the regular merchandise dealt in by a trading concern but something used in running the business, for example, something classed as furniture and fixtures?

(b) Would it be correct to enter discount on such a purchase in the "purchase discount" account, if this account is then closed directly into the profit and loss account?

(c) Would it be allowable to credit the asset account itself directly with this discount?

(d) Would it be desirable to open up a special account for such items, as, for example, "discounts on purchases of furniture and fixtures"?

Yours truly,
G. M. B.

You speak of the purchase and sale of something used in the business, such as furniture and fixtures. But such things are not sold.

Cash discount on capital purchases is always a reduction of price paid and is not to be treated as a profit of any kind.

BRANCH ACCOUNTS, HOME OFFICE OVERHEAD

Editor, Students' Department:

SIR: We are interested in the co-operation of your department in solving the many problems submitted, and are submitting the following for your consideration:

We maintain a distributing branch fifty miles away from our factory

for the purpose of stimulating sales in the far distant zone. The cost of conveying the finished product is charged direct to branch expense. The expenses incurred at branch are paid at the source and likewise charged to the branch.

Sales reports are filed daily with the general office, the figures compiled and invoices rendered to the trade. The proportion of sales at branch to the total volume of sales is approximately 15%. The question arises as to just what proportion of factory overhead in the nature of rent, insurance, clerical, executive, depreciation, etc., ought to be represented in the operating cost of branch.

The added volume creates additional expense at factory and, we maintain, ought to be represented in the cost of handling at branch.

Yours truly,
A. A. E.

Wo do not think that you are treating your branch account correctly. The expense of getting your goods to the branch is an addition to the cost of the goods and is not a branch expense. In the same way all the factory overhead is part of the cost.

The proper method is to bill the branch with the entire cost of the goods sent to it, including all the factory overhead.

On the home office books this cost is charged to the branch, together with transportation charges, but the off-setting entry is not to sales but to shipments to branch. When the home office books are closed this account of shipments to branch is transferred to the credit of finished goods account. This is because when the goods are shipped to the branch they are not sold but have merely changed their location, being taken out of the inventory at the home office and put into the inventory at the branch. They eventually get into the sales through the account of sales at branch.

If it is desired to keep the branch in ignorance of the cost price the goods may be billed at some other price which is a fixed percentage of the real cost. It does not make any difference at what price they are billed, since the entry recording the shipment is pro forma only. In the profit and loss statement of the whole business the cost value would be used.

Connecticut Society of Certified Public Accountants

The Connecticut Society of Certified Public Accountants, at its annual meeting on April 14th, elected the following officers for the ensuing year: president, I. A. May, New Haven; vice-president, L. M. Traub, Hartford; secretary, C. F. Coates, Waterbury; treasurer, F. W. Childs, Greenwich; auditor, G. L. Vannais, Hartford.

The society presented a gold medal to William Dunham Brash, of Hartford, who obtained the highest marks at the last C. P. A. examination.

Rankin & McAlpin announce that Sydney C. Hurst has been admitted to partnership. The firm in future will be known as Rankin, McAlpin & Hurst, with offices in the American Exchange National Bank building, Dallas, Texas.

Haskins & Sells and George R. Lamb announce the consolidation of their accounting practices, to be conducted in the name of Haskins & Sells, with offices in the First National Bank building, Cincinnati, Ohio.

Marwick, Mitchell & Co. announce that George A. Treadwell, member of the American Institute of Accountants, has been appointed manager of their New Orleans office.

Herbert B. Hawkins announces the removal of his office to the Woolworth building, New York.

Mitchell & Ferris announce the opening of offices in Edificio Banco Nacional, Habana, Cuba.

Morris Rogin announces the removal of his offices to 1 West 34th street, New York.

Joe M. Hendrix announces the opening of an office in Concord, North Carolina.

The Journal of Accountancy

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AMERICAN INSTITUTE OF ACCOUNTANTS

BOARD OF EXAMINERS

Examination in Auditing

MAY 18, 1920, 9 A. M. to 1 P. M.

Answer any ten of the following questions:

1. In auditing the accounts of a co-partnership you find that the real estate account includes two pieces of property, the titles to which stand in the names of individual partners. What position would you take in regard to such items?

2. You have been retained by a manufacturing company as a consulting accountant and are requested to advise the officers what steps to take in order to determine the cause of an apparent deficiency in the inventory of factory material and work in process. How would you proceed to inform yourself of the circumstances and what would you suggest as a possible remedy?

3. Give some reasons why the professional auditor should, under present-day conditions, give even more attention than in the past to (a) inventories, (b) insurance carried, (c) bank balances in foreign countries.

4. The machinery used by a firm has been purchased on the instalment plan, with monthly payments, and under the stipulation that title shall not pass until the last payment

has been made. At the close of the year there are several payments yet to be made. The firm also pays a royalty on the output of some of the machines secured on this plan. How should the accountant in the annual statement deal with (a) the machinery, (b) the instalments paid, (c) the royalties?

5. Discuss the principles under which the calculation of charges in a mining company should be made, covering (a) depreciation of plant and equipment, (b) amortization of development expenses.

6. You have been called to audit the books of a furniture company which sells on the instalment plan. The books have been closed when you reach the office, and you are handed a completed profit and loss account and balance-sheet. The company has been in business one year only.

On investigation you find that all instalment sales are credited to an account designated "instalment sales." A controlling account and sub-ledger are kept for the instalment customers.

You find that the total of the instalment sales has been credited to "instalment sales" account, which has been closed into profit and loss.

All accounts, instalment and otherwise, that were known to be uncollectible have been charged off. There are no reserves against balances due from customers on the books.

What criticisms or corrections have you to suggest as to the correctness or otherwise of the balance-sheet and profit and loss statement handed to you?

7. You find the following certificate is appended to a balance-sheet:

"May 15, 1920. The foregoing balance-sheet is in accordance with the books of the A. B. C. Co.

"(Signed) John Smith, *auditor*."

State what, in your opinion, are the limitations, if any, of such a certification. Assuming you were afforded all reasonable facilities for the conduct of an audit of the

company is it such a certificate as you would use? State definitely how you would amplify it.

8. The charter of a corporation which you are auditing contains a provision for the payment of an amount equal to 3 per cent of the preferred capital stock, originally issued, into a sinking fund. This fund, it is directed, is to be utilized in purchase of stock, at not exceeding 10 per cent premium, and its cancellation and retiral. State in full detail how you would reflect transactions under this provision in your balance-sheet. Give illustrations (a) assuming stock acquired at a discount of 10 per cent, and (b) assuming stock acquired at a premium of 10 per cent.

9. In auditing department store A. you find that cash discounts on purchases are regularly deducted from invoices when they are entered in the books, while in store B. the invoices are entered in full and the discounts are credited to a discount account as and when received. Discuss the relative advantages and disadvantages of the two methods, and state what variations, if any, would occur in the valuing of inventories under the two methods.

10. In a manufacturing concern which you are requested to audit, you find that what appears to be a careful book inventory of raw materials, supplies and work in process is maintained, but no physical inventory has been made for some years. Would you consider this a satisfactory state of affairs? And if so, on what safeguards would you insist to insure constant accuracy in the records?

11. Outline a programme for a balance-sheet audit with a test of operations for any one of the following:

    (a) A coal mining company,

    (b) A coffee or rubber plantation,

    (c) An import and export house with foreign connections,

    (d) A suburban real-estate development company.

12. In auditing the books of a corporation you find record of the ownership of stocks and bonds, some of which are in hand, some are deposited with bankers or others for safekeeping, and others are lodged as security for loans. State what kind of evidence you would require in each case, specifying particularly in the case of stocks and registered bonds, if not registered in the name of the corporation, what you consider necessary to protect your client's interests.

Examination in Commercial Law

MAY 18, 1920, 2 P. M. to 6 P. M.

Give reasons for all answers.

NEGOTIABLE INSTRUMENTS

Answer two of the following three questions:

1. A having received from B, in payment of a debt, B's cheque for $10,000. drawn upon the X bank, endorsed it to the order of C, who on the same day procured its certification by the bank. What is the obligation, if any, assumed by the bank upon certifying? What effect, if any, does such certification have upon the liability of A and B on the cheque?

2. Are the following instruments negotiable?

(a) "March 1, 1920. I promise to pay to the order of John Smith & Co. on August 30, 1920, in the city of New York, the sum of $340 for the amount of the second instalment on machine purchased of them on this date. William Brown."

(b) "New York, May 1, 1920. Sixty days after date, I promise to pay to John Smith $5,000. for value received. William Brown."

3. A made a note for the accommodation of B. B, before maturity, transferred it for value to C, who, at the time of taking the note knew that A was an accommodation party. Upon maturity, the note not being paid, C sued A thereon. Can he recover?

CONTRACTS.

Answer two of the following three questions:

4. A sent an order by mail to B for 100 barrels of flour at $15. a barrel on twenty days' credit. B replied, saying, "I accept your order and will ship the goods, but on 10 days' credit." A received this letter and made no reply. After A's receipt of the letter, B wrote again saying: "I have reconsidered the matter and will allow 20 days' credit. Am shipping the goods." A refused to receive or pay for the goods. Is A liable?

5. A, a carpenter, sent B a bill for $500 for work, labor and services. There had been no agreement as to the price to be paid. B, on receiving the bill, sent a letter to A not disputing the services, but questioning the reasonableness of the amount of the charge and enclosing a cheque for $350, which he stated was in full satisfaction of A's claim. A made no reply, cashing the cheque. He subsequently sued B to recover $150. as balance due. Is he entitled to recover?

6. A in Chicago by written instrument contracted to sell to B in New York certain goods, with the provision that the goods were sold f. o. b. the Pennsylvania Railroad at Chicago, payment to be made sixty days after delivery. A delivered the goods to the Pennsylvania Railroad at Chicago, took the bill of lading in the name of B and forwarded it to B. Before the goods arrived at New York, A learned that B had become insolvent. Has title to the goods vested in B? What are A's rights?

CORPORATIONS

Answer two of the following three questions:

7. A corporation has an authorized and issued capital stock of $100,000. It increases its authorized capital stock to $300,000. In what circumstances may the board of directors accept subscriptions to the new stock for cash at par from the public generally?

8. The by-laws of X business corporation provide that the manager shall not have power to contract a debt in excess of $1,000. without a vote of the board of directors. B, the manager, has been for several years in active charge of the business of the corporation and has bought from time to time from the Y company goods used in the business of the X corporation for amounts varying between $10 and $1,000. He now orders a bill of goods amounting to $1,500., and the X corporation refuses either to receive or to pay for the goods. Is it liable?

9. (a) What is meant by "cumulative dividends?"
   (b) What is meant by "cumulative voting rights?" For what purpose are cumulative voting rights usually given?

Partnership

Answer both the following questions:

10. A and B were copartners in the business of manufacturing shoes. A sold and conveyed his interest in the firm to C. What effect has the transfer on the partnership? What rights does C, the purchaser, acquire?

11. A and B are partners and employ C as a manager of their business. They agree to pay him 15 per cent of the profits as a salary. Subsequently X sells a bill of goods to the partnership and seeks to charge C as a partner. Can he succeed?

Bankruptcy

Answer both the following questions:

12. Explain what is meant by "receiver in bankruptcy" and "trustee in bankruptcy," and state how and by whom each may be appointed.

13. A filed a petition in voluntary bankruptcy, including in his schedules the following liabilities: $500. on promissory note; $250. personal taxes due to the state of New York; $500. on a claim for rent; $1,000. for alimony

due his wife; $5,000. on a judgment for personal injuries incurred through the negligence of A's agent in operating A's automobile; $500. on a claim for damages for obtaining certain stock by false representations made by A. All the holders of these claims were duly notified of the bankruptcy proceedings, but did not file proofs of claim. Subsequently A received a discharge in bankruptcy. Which, if any, of the debts listed were discharged?

Federal Income Tax

Answer both the following questions:

14. To what extent are losses deductible in computing net income for federal tax, (a) in the case of a resident individual, (b) in the case of a domestic corporation?

15. A, being the owner of 100 shares of the capital stock of the X company, which he purchased in 1914 for $10,000., in 1919 exchanged them for a plot of real estate in the city of New York. Is this transaction to be considered for income-tax purposes, and if so what further data would you need to determine whether or not it would affect the income-tax return of the individual in question, and why?

Examination in Accounting Theory and Practice

PART I

MAY 19, 1920, 9 A. M. to 1 P. M.

Answer questions 1, 2, 3 and any five other questions.

1. The books of a concern recently burned out contained evidence of purchases, including inventory, of $200,000 and sales of $40,800 since the last closing. Upon investigation, however, the auditor ascertained that a sale of merchandise had been made just prior to the fire, and not recorded in the books, at an advance of two-fifths (2/5) over cost less a 10% cash discount, on which the profit was $31,928.00.

The past history of the business indicated an average gross profit of 50% on cost of goods sold.

(a) What amount should be claimed as fire loss?

(b) What rate of gross profit do the transactions finally yield?

2. From the balance-sheet of the Lansdale Monotile Company dated December 31, 1918, as below, together with the information following, show the trial balance before closing.

THE LANDSDALE MONOTILE COMPANY

Balance-sheet—December 31, 1918

Assets			*Liabilities and Capital*	
Land and buildings........	$500,000		Capital stock....	$ 300,000
Less reserve for deprec'n.	120,000	$ 380,000	Notes payable....	350,000
Machinery and equipment..	$200,000		Accounts payable.	158,000
Less reserve for deprec'n.	80,000	120,000	Interest accrued payable	3,000
U. S. Victory bonds...............		100,000		
Merchandise—inventory		125,000	Surplus	314,000
Cash		58,000		
Accounts receivable........	250,000			
Less reserve for doubtful accounts	12,500	237,500		
Notes receivable..................		100,000		
Accrued interest receivable........		4,500		
Total		$1,125,000	Total	$1,125,000

The accruals at the time of closing were:

Interest on notes payable, $3,000; depreciation of buildings, $20,000; interest on notes receivable, $2,000; depreciation of machinery and equipment, $30,000; interest on Victory bonds, $2,500; provision for doubtful accounts, $12,500. The other nominal accounts closed out were: sales, $325,000; administrative expense, $50,000; cost of goods sold, $125,000; selling expense, $25,000.

3. An abstract of the cash account of the collector and treasurer of the borough of Eloka is presented to you showing the following figures:

Receipts:		
On hand beginning of year	$ 2,000.00	
(General account $1,500.00, special account being from assessments, $500.)		
Taxpayers, on account of taxes	47,000.00	
Assessments for improvements	1,000.00	
Licences, fees and permits	1,800.00	
Interest	300.00	
Emergency notes (to meet cost of repairing bridge wrecked by storm)	3,000.00	
Payments:		
Accounts payable (previous year)		$ 1,300.00
Salaries		5,300.00
Police department		19,000.00
Fire department		12,000.00
Street lighting		800.00
Interest on funded debt		2,250.00
Bonds retired		10,000.00
Repairs to bridge		2,800.00
Balance on hand end of year		1,650.00
	$55,100.00	$55,100.00

A copy of the budget adopted at the beginning of the year is as follows:

Estimated revenue (licences, fees, etc., $1,500; interest, $200)	$ 1,700.00
Amount certified to be taxed	48,200.00
	$49,900.00
Appropriations:	
Salaries	$ 5,000.00
Police department	19,500.00
Fire department	12,000.00
Street lighting	900.00
Interest on funded debt	2,500.00
Bonds retired	10,000.00
	$49,900.00

The taxes assessed were, however, $49,700., instead of $48,200., but allowances were made amounting to $800., which reduced the amount actually collectible to $48,900.

At the end of the year the following unpaid bills were on file:

Police department	$300.00
Fire department	50.00

At the beginning of the year there were uncollected taxes from previous years of $2,800., on the one hand, and unpaid bills $1,300., on the other hand, which, with the cash on hand showed an apparent balance on general or current account of $3,000. At the same date the funded debt was $50,000., and unpaid assessments for improvements were $1,400., showing with the cash on hand on surplus account a net debt (excluding general account) of $48,100.

Prepare a balance-sheet at the close of the year (dividing it into its two main sections of current and capital accounts respectively) and also a statement showing the operations for the year. State also what is the net debt of the borough at the close of the year.

4. Explain the distinction between real reserves and nominal reserves. Give two examples of each.

5. In the course of a balance-sheet audit of a large corporation, why should the examination of repairs charged to cost of operations receive special consideration in relation to the liability for federal taxes?

6. In the case of a company which publishes an annual balance-sheet but no profit and loss account, state whether or not you would recommend to your client that the profits earned during the year, less dividends paid, be shown on the face of the balance-sheet. Give your reasons.

7. Can surplus be created in any way other than through profits earned from operations? Explain.

8. In preparation of consolidated returns under the federal income-tax law, on what basis would you apportion the tax among the several corporations?

ACTUARIAL QUESTIONS (OPTIONAL)

9. The maximum sum insured under the soldiers' insurance with the government is payable \$57.50 per month for 20 years certain after death or disability. How can the equivalent sum payable in cash be found? Give the correct formula and explain why 12 x 57.50 x A_{20} differs from the equivalent cash sum.

Given: A_{20} at 3½ = 14.21.

10. The 4¾% Victory notes mature at par on May 20, 1923. If a purchaser buys at \$96.20 on May 20, 1920, calculate the approximate yield per cent.

Given:	2¾%	3%
$A_6 =$	5.4624	5.4172
$V^6 =$	.8498	.8375

11. A company is issuing \$100,000. of 4% 20-year bonds, which it wishes to pay at maturity by means of a sinking fund, in which equal annual deposits are to be made. The board of directors wishes to assume that this fund will earn 5½% interest for the first five years, 5% for the next five years and 4% for the last ten years. What is the annual deposit required?

Given:	5½%	5%	4%
S_5	5.581	5.526	5.416
S_{10}	12.875	12.578	12.006
$(1 + i)^5$	1.307	1.276	1.217
$(1 + i)^{10}$	1.708	1.629	1.480

Examination in Accounting Theory and Practice

PART II

MAY 19, 1920, 2 P. M. to 6 P. M.

Answer questions 1, 2, 3, and any three other questions.

1. From the following trial balance of the Sampson Company, December 31, 1919, after closing, prepare a statement of financial condition, such as might be presented to bankers:

Debits		*Credits*	
Prepaid insurance.......	\$ 1,850.00	Reserve for customers'	
Plant property.........	350,000.00	discounts	\$ 13,500.00

Debits		Credits	
Notes receivable........	$ 16,500.00	Notes payable..........	$ 35,000.00
Finished goods.........	47,800.00	Surplus—capital........	240,000.00
Patents, trade-marks and		Profit and loss.	243,650.00
goodwill	500,000.00	Reserve for credit losses.	15,000.00
Prepaid interest........	525.00	Accounts payable......	62,000.00
Goods in process........	53,750.00	Reserve for depreciation	
Cash	52,425.00	of plant property......	85,000.00
Advances to salesmen...	750.00	Salaries and wages pay-	
Materials and supplies...	25,500.00	able	2,350.00
Treasury preferred stock	5,000.00	Preferred stock*........	100,000.00
Customers	145,900.00	Common stock†.........	400,000.00
		Dividends payable......	2,000.00
		Accrued taxes payable...	1,500.00
Total debits........	$1,200,000.00	Total credits........	$1,200,000.00

* 1,000 shares, par value $100 each, preferred as to assets and dividends.
† 80,000 shares of no par value, issued at a stated value of at least $5 a share.

2. The A B C university presents a balance-sheet at December 31, 1919, drawn up as follows:

Assets

General fund:			
Cash—general fund..................................			$ 4,395.63
Unpaid tuitions			2,348.43
Accrued interest receivable............................			5,764.08
Unexpired insurance			1,587.96
Furniture and equipment..............................			59,853.18
Total general fund assets.........................			$73,949.28
Endowment funds:			
Bonds and mortgages		$336,750.00	
Stocks and bonds		75,312.62	
Real-estate investments		163,149.30	
Real-estate—university property.............		135,641.68	
Cash—endowment funds:			
In banks	$10,800.91		
Due from general fund............	14,358.32	25,159.23	
Total endowment fund assets.......................			736,012.83
Total assets			$809,962.11

Liabilities

Notes payable	$ 10,000.00
Accounts payable	8,724.59
Due to endowment funds	14,358.32
Total liabilities	$ 33,082.91
Endowment funds	736,012.83
General fund	40,866.37
	$809,962.11

You are asked to make an audit of the books, in the course of which you discover the following facts:

(a) The endowment funds are restricted as to the use of the income therefrom for general purposes of the university.

(b) The item "real-estate—university property" represents amount paid in acquiring title to property upon which university buildings stand, which was originally leased by the university. These payments were made from the proceeds of sale of endowment fund investments. On December 29, 1919, the property upon which university buildings stand was sold and title passed for a cash consideration of $500,000, the cheque for which was not deposited until January 5, 1920.

(c) Cash shown as due from general fund represents endowment fund cash advanced to pay off obligations incurred as a result of university operations.

You are asked to criticize the balance-sheet as submitted, prepare necessary journal entries to set up the sale of real-estate and prepare corrected balance-sheet of December 31, 1919.

3. The A. B. C. company agreed to pay its general manager a bonus of 10% of its net profits for the year 1919, after deducting federal income and profits taxes, the bonus being a deductible expense in determining net taxable income. After the books had been audited it was found that the net profits before deducting federal income and profits taxes, and before deducting bonus, amounted to $470,000, and that the invested capital for federal tax purposes for the year 1919 was $840,000. Calculate the amount of the bonus and federal income and profits taxes, proving your answer

by showing that the bonus amounts to exactly 10% of the profits after deducting federal income and profits taxes. The entire bonus comes out of the 40% bracket.

Tax information:
  Excess profits taxes exemption:
    $3,000 and 8% of the invested capital.
  Income-tax exemption:
    $2,000 and amount of excess profits taxes.
Rates:
  Excess profits taxes:
    20% of the net profits in excess of the exemption and not in excess of 20% of the invested capital.
    40% of the balance of profits.
  Income tax:
    10% of profit less exemption.
Tax before bonus, $173,124

4. Define the following and give a list of expenses which would properly come under each heading:
   (a) Shop overhead
   (b) General overhead

   Discuss various methods of distributing such expenses.

5. Explain and discuss four methods of providing for depreciation.

6. How would you deal with the following items in preparing the annual accounts of a company?
   Comment briefly on any points which would need special consideration:
   (a) Goodwill
   (b) Repairs reserve account
   (c) Unclaimed dividends account
   (d) Bond issue expense account
   (e) Preliminary expense account
   (f) Expenditure during the year on leasehold property.

7. It being understood that in well-managed industrial concerns large expenditures for construction should not be made unless they are properly authorized, discuss in detail

a method for preparing requisitions for such work, describing the information that should be shown and the form which authorization should take.

8. (a) What is the effect of depreciation upon the operating results of a business?

   (b) Is a charge for this purpose recognized under the income-tax regulations?

   (c) If the authorities disallow any charge which has been made upon the books, state specifically how the amount disallowed should be treated in subsequent income-tax returns.

9. A merchant going abroad to purchase goods secures from his bank, on the strength of his general financial standing, a letter of credit for use in his contemplated purchases of $500,000.

   How should the issuance of this letter of credit be shown in the accounts of the bank?

What Is a Reasonable Profit?

By Stuart Chase

There has been a new word coined from the exigencies of the times. It is not to be found in the dictionary, but it is upon everybody's lips and in everybody's newspaper. It is the word "profiteer."

Under the rules of the prevailing economic system, men do not organize their fellows for productive work except in the hope of making profit. Profit for these organizers is thus, at the present time, the very life-blood of the economic mechanism. To accuse all profit-takers of being "profiteers" is unjust and ridiculous. Take away profit and you have no incentive to produce goods under the present system. So long as this system endures, therefore, it would seem to be of considerable importance to distinguish between those profit-takers who claim a just and reasonable margin between their costs and selling prices and those profit-takers who claim an unreasonable margin and upon whom the stigma of the "profiteer" may justly fall. This is a distinction not only vital to the people who feel themselves the victims of extortion, but also vital to the statesman who, in the interests of the general public, attempts to curb the profiteer by law. It is the object of the present survey to determine, if possible, what shall constitute a "reasonable" profit, and particularly the technical methods underlying such determination.

Initially it is clear that the question of reasonable profit is intimately bound up with the question of reasonable price. In regard to a whole industry the two questions are indissoluble and identical, although in regard to a given company they may sometimes be considered separately. A fair price is built upon a true cost of production plus a fair profit, and thus it is obvious that such a price cannot be fixed until costs are found and a fair profit is determined. An attempt to fix prices without an investigation of the reasonableness of profits is a leap into the dark; so it may be said that the determination of what constitutes a reasonable profit underlies the question of what constitutes a fair price.

Precedents

In America we have long recognized that profits should be limited in the case of certain natural monopolies. In the case of many public utilities—such as gas companies, power plants, water companies and municipal transportation—it is a matter of common agreement that competition is an inefficient and wasteful method of operation. Public utility boards have been regulating profits, through the medium of fixing rates and limiting returns to investors, in enterprises of this nature for many years. The interstate commerce commission, according to the same general theory, has passed upon the reasonableness of rates charged by common carriers.

The exigencies of the war inaugurated a wide-spread movement on the part of the federal government toward regulation of profits and prices in a number of industries and according to a variety of methods. Thus the railroads were taken over and operated by the government, while railroad shareholders were compensated on the base of what congress determined to be a reasonable return. The Lever act imposed certain restrictions upon producers and manufacturers of food-stuffs, such as guaranteeing the price of wheat, fixing milling margins per barrel of flour and regulating the profits of the packers. The fuel administration fixed coal prices on the basis of costs. Munitions and supplies required by the government were purchased to a large extent on the "cost plus" basis, the "plus" representing what was thought to be a reasonable profit. Finally the treasury department through the excess profits and war profits taxes very clearly attempted to approach the question of reasonableness in regard to all corporations, partnerships and individual business.

While many of the limitations imposed by the government upon industrial profits during the war have been abrogated, the excess profits tax remains, and the continued high cost of living, with the resulting public unrest, has led the government to institute a nation-wide campaign against excessive profit-taking in the necessities of life. Therefore, it is safe to say that the termination of the war has by no means terminated the efforts of the government as representing the general public to define and in certain cases insist upon a reasonable profit.

But in spite of the growing tendency to determine what shall

constitute a reasonable profit, an examination of the methods heretofore adopted indicates that the question as a whole has not as yet been subjected to comprehensive analysis from either the economic or the business point of view (except perhaps in the case of public utilities), and such methods as have been tried have been largely experimental, often varying widely among themselves, and on occasions working great hardship and injustice to the parties under regulation or review. Seldom have these methods been constructed according to such a standard that the public could have definite assurance that a truly reasonable level of profit was being maintained.

Statement of the Problem

Primarily the modern organization of industry should be considered. If American industry were operating on the basis of free competition the question of reasonable profits could hardly be said to exist. Under free competition any profit that a competitor can make, having by definition no special advantages, may be said to be a reasonable one. Economic theory argues that when the profits of a free competitor become large, new capital tends to enter that field, increase the supply and thus automatically check an unduly high rate of return. The law of supply and demand is said to operate to keep profits at a moderate level. It is an open question, however, to what extent free competition obtains in modern industry as now organized. The pure condition contemplated by the classical economist is not often found in fact. Free competition has given way in many basic industries to the establishment of pools, rings, combinations, "gentlemen's agreements," "interlocking directorates" and other forms of monopoly or semi-monopoly. One has but to mention anthracite, sugar, oil, steel, harvesting machinery, packing, as well as numerous working agreements in smaller industries, to realize how far free competition has been undermined. Furthermore, certain natural, geographical, transportation, credit, protective tariff and other conditions seriously hamper the free play of pure competitive forces. We can recognize, therefore, at least three types of industries—the monopoly, the semi-monopoly and the competitive. Let us consider the probable effect of a profit regulation in each case.

In the case of monopolies, the fixing of a reasonable level of

profits tends to fix reasonable prices to the consumer at the same time. The monopolist is not over-rewarded, nor is the consumer forced to pay more than a fair price. The reason for this lies in the obvious fact that a monopoly by definition arbitrarily fixes prices, as its operations lie beyond the effective sphere of supply and demand. Knowing to what level its profits must be kept, the monopoly can within certain limits adjust prices accordingly. In the field of public utilities (such as the municipal gas company or electric light company) the operation of this principle is clear and simple.

When we turn, however, to semi-monopolies, such as the combination of the great packers for example, the principle becomes more complicated. A certain amount of competition is present, supply and demand do operate to a limited extent, and it is by no means certain that a limitation of profits would necessarily affect prices and directly benefit the consumer to any great degree. In the case of the great packers, with their interest in many things besides the meat business, the limitation of meat profits might well result in concentrating their activities in and devoting their capital to other enterprises.

In competitive industries subject to the law of supply and demand, a profit regulation can have no effect on prices unless each individual company in the industry sells at a different price to correspond with its own earning capacity—a situation clearly grotesque and impracticable. Prices in a competitive industry are set by the costs of the "marginal" or "bulk-line" companies, and in that a regulation of profits would not affect those marginal companies, with their high costs and low profits, the economic price would not be affected by the regulation, although low cost companies might be forced to sell at prices varying with their profits, which would be an absurd situation. England during the war, however, regulated profits in competitive industries by creating a giant pool which took all competitors' goods at cost, sold the goods at a flat price more than to cover all costs and distributed the profits back to the companies.

It should be pointed out that an arbitrary limiting of profits in a more or less competitive industry tends toward the discouragement of efficiency in low cost companies. Such companies will not be disposed to keep their costs down if no additional profit is to be

gained thereby. There is a real and delicate problem to face in this regard, for a profit regulation that makes for inefficiency and waste obviously defeats the social purpose for which it is primarily instituted.

The Definition of Profit

Profit from the economic standpoint and from the investor's or business standpoint has a different connotation.

According to the usual economic definition, profit is the entrepreneur's reward for his productive ability. Strictly speaking that only is regarded as profit which is over and above the normal ground rent chargeable for the land or natural resources which the entrepreneur uses (regardless of whether he owns or leases such property) and over and above the normal interest charge for other capital, including money, credit and improvements, which he uses (regardless of whether he owns, borrows or leases such property.)

"Net profit" as defined by the investor, on the other hand, is the amount of gross revenue which remains after providing for all legitimate costs, and after allowance has been made for rent and interest on property actually leased or money actually borrowed.

The economist contemplates the return on the whole business, postulating that all property which the business uses—whether such property is borrowed, leased or owned by the stockholders—constitutes the total investment from which profit is ultimately derived. Certain portions of this investment demand rent, others demand interest, what remains is the economic profit earned by the total investment.

The investor on the other hand contemplates the return on the stockholders' or owners' capital only. He defines investment as the owners' equity in the business, usually termed "net worth" and measured by capital stock and surplus combined. After paying all costs, plus rent and interest, what remains is the net profit earned by virtue of the owners' net worth. The economist thinks from the standpoint of the industry as an economic unit regardless of who owns it. The investor thinks from the standpoint of the owner of the business who receives the profit in cash or its equivalent.

It is unquestionably true that the investor's definition of profit

is the one that is most in use to-day and the one which the public best understands. Furthermore, from the bookkeeping point of view it is very unusual for a given enterprise to allocate its earnings as between rent, interest and pure economic profit, and accordingly if the economic definition were to be followed in fixing a reasonable return it would necessitate a considerable modification in current bookkeeping methods. In the circumstances it is probable that the investor's definition of profit is the more convenient for the task in hand.

Erection of a Standard for Defining Reasonableness

Having thus outlined the problem and examined in some detail the elements which enter it, it remains to be seen what course should be followed. As a representative of the general public, the statesman desires to reduce prices, prevent swollen fortunes, and at the same time does not wish to discourage industry or to be unfair to individual companies.

In his attempt to define what shall constitute a reasonable profit, he is at once confronted with two questions:

1. What shall be the standard base employed for determining profit in its relation to reasonableness?

2. What shall be the specific rate of profit allowed on this base?

In other words, what percentage method or other method shall be used to measure the earnings of a given enterprise, and what shall be the exact percentage or other index qualification granted as "reasonable?"

The Necessity of a Standard

It is a matter of common knowledge that a given profit shown in terms of dollars and cents is often meaningless.*

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* One important qualification needs to be noted in this connection. To quote J. A. Hobson, the English economist, in his book, "The Industrial System," page 196: . . . . we must distinguish the unit of cheap production where the highest rate of profit is got from the unit which, with a lower rate, yields a larger aggregate profit. A business which has been earning 12 per cent. on its invested capital of 300,000 pounds may grow to 500,000 pounds if it can earn 9 per cent. on this large capital. Since it is aggregate profit, at any rate above the minimum, rather than the highest rate of profit in itself, that furnishes the business motive to business men, it is evident that economic forces may thus drive businesses into sizes larger than the cheapest unit of production. This growth of uneconomically large businesses will normally occur in an industry where such growth may itself become an instrument for repressing competition, and so for preventing such a fall of prices as will lower profits to a minimum. In other words, if a manufacturing business, which in its "cheapest unit of production" size, at 300,000 pounds is subject to keen competition (because at such a size it cannot command the market), finds that, by doubling its size, or by combining with a competitor of the same size, it can absolutely or partially control the market, it will be profitable to make this enlargement, because, by holding up prices, it can thus secure a laıger aggregate profit than by remaining at the "cheapest unit of production" size.

In order to give the figures significance and before critical judgment can be passed, they must be brought into relation with some other known factor of the enterprise, such as sales, investment or unit of output, and the rate or index of profitableness must be determined. This rate then becomes a yardstick which measures and compares the returns of the enterprise under examination with other enterprises in the same line of business and, if the index be general enough, with enterprises in other kinds of business.

Here is encountered a most important question, namely, the necessity of determining a standard which is as wide in its application as possible. While it may well be that one standard has great significance in a certain industry and another standard has great significance in a second industry, the fact that neither standard is applicable to both industries rules it out from the universal standpoint. Thus, as coal operators are in the habit of quoting their profit per ton, the packers their profit per dollar of sales and bankers their earnings per share of capital stock, it is obvious that these varying methods must, from the standpoint of universality, give way to some single standard that is applicable to all three businesses and capable of establishing a basis of comparability between them. If such a universal standard can be found, the whole question of determining reasonableness is immensely simplified. Certainly it would be our aim to find a standard applicable to all or, failing that, to most industries.

Re-examining for a moment the economist's definition of profit as the reward of ability, it would seem that profit in this sense does not flow so much from any particular investment or sales, or other dollars and cents standard, as from the individual character of the entrepreneur. In other words, the economic definition of profit might seem to call for a psychic human equation rather than any mathematical amount as a standard to which to relate profit. But a brief consideration of the facts indicates that this is a groundless assumption, for the ability of the entrepreneur finds an excellent measurement in the amount or rate of profit earned on a certain investment or other mathematical figure over and above the amount or rate that could be earned did the entrepreneur's special ability not come into play—i. e., on an

investment basis, the rate earned over and above the current interest rate.

If bankers and bondholders who lend money to a given enterprise are satisfied to receive only about the current interest rate, what is earned over and above this rate measures the special ability of the entrepreneur and is claimed by him and can be related in percentage terms to his investment.

A word as to the wisdom of profit regulation: if it could be proved that the entrepreneur would not exert his ability unless he was assured of a high reward for it, it might be disastrous for society to attempt any kind of profit regulation, as in so doing it would discourage the efficient means of its own subsistence, although the subsistence came high because of the profit included in the price. Under modern industrial conditions, however, it is doubtful if this proposition can be proved. Much of the profit made to-day flows from certain special privileges, or certain special conditions, rather than from the ability of the entrepreneur alone. Moreover, it is an open question whether or not the entrepreneur in these days of great corporate undertakings is not as much of a myth as the "economic man"—beloved by the academicians. Salaried managers have largely absorbed the functions of the old individual entrepreneur in many large-scale undertakings, and it is doubtful if industry would flag and weaken if the "reward of ability" were constrained by the state in the form of a reasonable regulation of profits.

Standards Now in Use

Many methods of calculating rates or indices of profit are in use. The problem immediately in hand is to determine which method is the soundest and of the most general application from the public standpoint for the purpose of gauging reasonableness.

The more common of the existing standards are the following:

1. The rate of profit on sales.
2. The rate of profit on costs.
3. The rate of profit per unit of output (per bushel, per gallon, etc.)
4. The rate of profit on investment, investment having the following possible definitions:*

* While these definitions are given in terms of a corporation balance-sheet, they are equally applicable to a partnership or an individual proprietorship, by substituting for capital stock and surplus the partnership or proprietorship accounts.

a. The rate of profit on economic capital (including borrowed money and a valuation for leased property.)
b. The rate of profit on capital stock.
c. The rate of profit on fixed investment (land, buildings, machinery, etc.)
d. The rate of profit on the actual cash or property investment contributed by stockholders.
e. The rate of profit on capital stock, surplus and borrowed money, including bonds, notes payable and other interest-bearing obligations.
f. The rate of profit on capital stock, surplus and bonded indebtedness.
g. The rate of profit on net worth or total assets less total outside liabilities (net worth is usually represented on a company balance-sheet by capital stock and surplus).

All the above standards have been used at one time or another, and most of them are more or less illuminating and useful from certain angles, even as they may be misinforming from other angles. Due to this variety of standards perhaps, there is no single field in which misunderstanding is at present more rife.

The greatest carelessness obtains among all sections of the business world in announcing rates of profit without stipulating upon what the rates are based. It is very common to be told that a given enterprise makes 10 per cent or 20 per cent or 100 per cent, but it is exceedingly uncommon to be told whether the percentage is based on sales, on economic capital, on net worth, on capital stock or what not. The fact that percentages are given with the base taken for granted would seem to indicate that the public mind is reaching toward the creation of a universal standard. The fact remains, however, that that standard has never been determined, and as a result gross misunderstandings are constantly occurring through the indiscriminate use of undefined percentages.

Let us examine each of the above standards with a view toward its adaptability as a universal measure of the reasonableness of profits.

(1) *Sales*—A rate of profit on sales is not a trustworthy index as between two different industries, in that this rate is subject to

great variation according to the industry in question. The condensed milk business, for instance, operates on a fairly rapid turnover, the manufacturing process is simple and requires neither highly skilled workmen or much expensive machinery, and as a result the rate of profit on sales does not need to exceed 2 or 3 per cent in order to give an ample return (10 to 15 per cent) on net worth. The manufacture of shoes, on the other hand, is a longer process, the turnover is not so rapid, skilled workmen and costly machines are required in some numbers, and as a result the rate of profit on sales must be from 8 to 10 per cent in order to yield a 10 to 15 per cent return on net worth. Obviously a 2 per cent profit on condensed milk sales has no significance when compared with 2 per cent on shoe sales, and the two industries cannot be compared or judged on this standard.

Again, while a rate of profit on sales is in common use in many lines of business as a guide to the executives of that business, it is always theoretically unsound and often dangerous. For instance, in a period of rapidly increasing prices, a profit which might positively increase in terms of rate on investment would tend to show a decrease in terms of rate of profit on sales. As profit in the modern business sense applies to stockholders, and stockholders are represented by investment, obviously the rate on investment curve is more important and more nearly true than the rate on sales.

Furthermore a rate of profit on sales can never reach 100 per cent (unless the goods cost nothing), and accordingly as rates on sales approach 100 per cent they become increasingly flattened and meaningless.*

(2) *Costs*—A rate of profit on costs is sounder than a rate on sales, but the fact that the make-up of costs between industries is founded on widely varying amounts of investment to produce those costs renders this ratio unsuitable for comparative purposes. An industry whose costs are 90 per cent raw material and 10 per cent expense requires as a rule considerably less investment than an industry where costs are 10 per cent raw material and 90 per cent expense, because in the latter case a great deal of processing is obviously necessary, entailing as a rule the employment of costly machinery and equipment. The question of the

* The food administration during the war used this standard for regulating the profits of the small independent packing companies, allowing 2½ per cent. on sales.

rapidity of turnover also operates in a "cost" rate, as it does in a "sales" rate.

(3) *Unit of output*—Rates of profit per pound, per gallon, per cubic foot, etc., are excellent for the information of operators in any given industry as a measure of efficiency, but they are meaningless for comparisons between industries, because a profit of 2 cents per pound on meat has no significance when compared with a profit of 2 cents per pound on coal, and largely meaningless to the general public until reduced to terms of rate of profit on investment or other well-recognized factor.

(4) *Investment*—The last seven items on the list of standards deal with different definitions of what constitutes investment. It is by this time clear that investment is one thing that all business has in common and is the common item upon which significance can be placed. A rate of profit on investment has few of the shortcomings that apply to rates on sales, costs or unit of output, and, if investment can be adequately defined, it is obvious that here is found a standard upon which can be compared intelligibly the earnings of most if not all industrials. Profits arise fundamentally from the application of capital or "investment" to a given enterprise. A rate of profit on that investment goes far toward telling the true story of reasonableness.

The problem is by no means solved, however, until investment be defined. Seven definitions are given in the above list, and they will be considered in turn:

a. *Economic capital* includes all capital—whether owned, borrowed or leased—used by the company in question. If this definition of investment be taken, obviously the economist's definition of earnings, compounded of the three elements of rent, interest and pure economic profit, must be taken in conjunction therewith, in order to establish a standard rate. The great difficulties with such a standard are its unusualness, the absence of data from which to calculate it on most accounting records and the question as to whether reasonableness is more closely related to economic capital or to investors' capital. This definition cannot be dismissed, however, and will be considered again later.

b. *Capital stock* is a common measure of profit but a highly unsound one. On this basis, a company which capitalizes its surplus by issuing stock dividends will show a much lower rate than

one which does not, although the earnings of the two companies on the basis of economic capital or net worth may be identical. Morris & Co. in 1917 earned about the same rate on net worth as did the Cudahy Packing Co. (23 per cent) but this profit applied to capital stock shows some 260 per cent in the case of Morris and only 35 per cent in the case of Cudahy, because Morris has not capitalized surplus in recent years. The futility of comparisons on this basis needs no further argument.

c. *Fixed investment* (*lands, buildings and machinery*) is not an adequate standard because of the tremendous variation between industries in the amount of fixed investment required. A broker or commission man may have no fixed investment beyond a desk or two and yet have a great deal of money tied up in working assets.

d. *Actual cash or property contributions* on the part of the stockholders provide an interesting standard for measuring profits in the early years of a given enterprise, but after profits have been accumulated in the surplus account—particularly by reason of a genuine foregoing of reasonable dividends on the part of the stockholders—the original cash contribution ceases to measure the stockholders' investment, and thus comparisons between liberal and illiberal dividend paying companies, as well as between old companies and new companies, become largely meaningless on this basis. We shall consider actual contributions later, however.

e. *Capital stock, surplus, bonds, notes payable and other interest-bearing obligations.* The theory of this definition leans toward the economic standpoint, in that investment is here postulated to include all moneys used in the enterprise, the source of those moneys—whether advanced by owners or stockholders or by banks, bondholders or other money lenders—having no bearing on the situation. The weakness in this definition, still from the economic viewpoint, is the fact that no provision is made for the inclusion of fixed properties (land, buildings, machinery, etc.) by a given enterprise, but leased or rented, rather than owned. In cases where royalties are paid, the problem of capitalizing them becomes so complicated that this definition may serve as a more practicable one than economic capital—although in theory it is deficient.*

* The food administration during the war applied this standard to the regulation of the packers' profits, allowing 9 per cent. profit on the meat business.

f. *Net worth plus bonded indebtedness* is another common measure, but its shortcoming is apparent when it is remembered how common it is for corporations to borrow from banks on long term notes instead of bonding their assets. This measure does not furnish a sound basis for comparability.

g. *Net worth* is from the legal or investors' viewpoint the true investment in a given enterprise. After eliminating goodwill, unwarranted appraisals and other more or less intangible assets, it represents the actual money advanced or left in the business by owners or stockholders. Borrowed money or leased property is regarded as a commodity used in the enterprise, like raw materials or labor, for which due payment is made in the form of interest or rent charges, but it has no claim to share in the profits of the business after such charges have been met. Profit is accordingly defined as the amount of income remaining after the deduction of interest and rent, and agrees with the investor's definition of net profit.

Argument is thus between economic capital and net worth as the better basis for defining investment and the best standard upon which to calculate rates of profit, with net worth plus borrowed money as a substitute for economic capital when valuations for leased property are difficult to determine.

There is no question, from the economic contemplation of the whole industry, that a rate of profit—before charging rent and interest—on economic capital is the most acceptable standard for measuring earning power. But, as has already been pointed out, such a standard involves a considerable revision of modern accounting methods as well as an extensive change in both the business man's mind and the public mind as to what constitutes investment and profit.

From the point of view of modern business, profit is universally recognized as remaining after rent and interest charges have been met and investment is finally conceded to be synonymous with net worth. Net worth is the stockholder's or owner's investment. This investment has presumably been made for the purpose of earning a profit over and above actual rent and interest charges. When such a profit remains it is divisible among shareholders or owners in proportion to their holdings in or claims upon the net worth (after income taxes have been paid to the government),

and accordingly the relationship of net profit to net worth is a close one, and a rate or ratio established between them is a significant and well-nigh universally understood figure.

Robert H. Montgomery takes up the position that net worth constitutes the true definition of investment, on page 572 of his book *Income Tax Procedure,* 1918, as follows:

> Capital in a commercial sense is what remains after debts are provided for. A man with no capital of his own may borrow $1,000 and lose it in his trade or business. He still owes it. As before, he has no capital, and now he does not even have economic capital.
>
> Borrowed money is the capital of the lender, not of the borrower. Much has been said in favor of considering borrowed money as invested capital, but the author thinks that the arguments used are fallacious and impracticable. If banks were to consider all deposits as invested capital, a curious situation would arise. Its depositors might not like the idea.
>
> The inclusion of interest as an expense of the business is a sufficient recognition of the use of borrowed money by the borrower.
>
> In the case of corporations where the limitation on interest deduction may operate to prevent credit for the full amount paid, there is, of course, an injustice, but the remedy is to remove the restrictions on the interest allowance, not to consider borrowed money as capital.

Congress in the income-tax law laid down in effect a theory of judging reasonableness of profits, when it provided that a certain pre-war rate of earnings on investment should be taken as a standard for gauging excess war earnings. Investment was defined in the summary as follows:

> Art. 831. *Meaning of invested capital.*—Invested capital within the meaning of the statute is the capital actually paid in to the corporation by the stockholders, including the surplus and undivided profits, and is not based upon the present net worth of the assets, as shown by an appraisal or in any other manner. The basis or starting point in the computation of invested capital is found in the amount of cash and other property paid in, the valuation at which such other property may be included being determined in accordance with the statute and the regulations. The computation does not stop, however, with such original entries or amounts, but also takes into account the surplus and undivided profits of prior years left in the business. The invested capital of a corporation includes, generally speaking, (a) the cash paid in for stock, (b) the tangible property paid in for stock, (c) the surplus and undivided profits, and (d) the intangible property paid in for stock (to a limited amount), less, however, the same proportion of such aggregate sum as the amount of inadmissible assets bears to the total assets. Invested capital does not include borrowed capital.

In other words investment closely approximates net worth, and no attempt is made in the law to use economic capital as a basis, for the clause quoted above specifically says "invested capital does not include borrowed capital."

All things considered it would appear that rate of profit on net worth furnishes the most practical standard for him who is attempting to pass judgment upon the reasonableness of profits.

Precaution Necessary in Using Net Worth as a Standard

In an unincorporated enterprise it is conceivable that all the capital for running the business might be borrowed. In this case there is no net worth at the beginning of operations. Any profit made, therefore, cannot be related to net worth, and no rate or measure of reasonableness on this basis can be established. In such cases economic capital is obviously a better standard, but it would probably be admitted that cases of this kind are rare. Again, if a certain rate on net worth were laid down as reasonable, the shrewd business man would immediately attempt to make his net worth as large as possible. This he can do, if no regulations restrain him, by revaluing his fixed property on the basis of current reproduction values instead of cost values; by injecting goodwill into his assets and issuing stock therefor; by selling stock instead of borrowing money from the banks; by issuing preferred stock instead of bonds, and so forth.

Great care must be exercised by the regulating authority in defining net worth. Perhaps the safest rule that can be laid down is that net worth is the difference between total assets (after assets have been cleared of goodwill and all fictitious valuations including re-appraisals) and total liabilities, including bonds.

Again assuming that net worth as thus limited and defined be taken as a standard, a further difficulty remains in regard to the question of the actual cash or property contributions made by stockholders and the bearing of such contributions on the problem of a reasonable rate of earnings. A profit regulation, for instance, of 10 per cent on the net worth of company A and company B—where A's net worth was made up of cash capital plus a surplus derived from a genuine parsimony in declaring dividends; and B's net worth was made up of an original shoe-string plus excessive profits put back into surplus after paying high dividends—such a situation, calling for an equal tax, or price reduction, on the part of both A and B, does not seem to be altogether equitable. The bearing of original contributions, particularly in cases of monopoly, must not be overlooked in bringing judgment to bear upon the reasonableness of the profits of a given company.

An Illustrative Case

The XY Company manufactures men's shoes of one style

only. Its balance-sheet (condensed) on December 31, 1919, was as follows:

Assets		*Liabilities*	
Current assets	$100,000	Accounts payable	$ 30,000
Fixed assets	200,000	Notes payable	30,000
Goodwill	50,000	Bonds payable	70,000
		Total liabilities	$130,000
		Net worth	
		Capital stock, common	100,000
		" " pfd. (7%)	50,000
		Surplus	70,000
		Total net worth	$220,000
Total assets	$350,000	Total liabilities & net worth	$350,000

Value of leased machinery used by company—$50,000

The profit and loss account of the XY company for the year ended December 31, 1919, was as follows:

Sales (200,000 pairs of shoes @ $5)		$1,000,000
Cost of sales (exclusive of rent, interest and federal taxes)		950,000
Gross profit		$50,000
Less rent paid on machinery	$4,000	
Interest paid	6,000	10,000
Net profit		$40,000
Federal income tax		10,000
Transferred to surplus		$30,000

From the above statements it is possible to select all the various figures and standards hitherto considered and calculate rates of profit on each.

Net worth is found to be $170,000

The net worth of the company shown on the balance-sheet is $220,000, but this includes a valuation of $50,000 for goodwill which must be eliminated, the item in this case being assumed to be merely a book value for which nothing was paid.

Economic capital is found to be $320,000

This is obtained by adding net worth ($170,000) to borrowed

money ($100,000) to the valuation of rented machinery used ($50,000).

Net worth plus borrowed money is found to be.................. $270,000

The various rates of profit actually earned according to certain of the standards already enumerated are as follows:

Rate of net profit ($40,000) on sales ($1,000,000)..........	=	4 per cent
Rate of net profit ($40,000) on costs ($950,000)............	=	4.2 " "
Rate of net profit ($40,000) per unit of output (200,000 prs.)	=	20c. per pair
Rate of gross profit ($50,000) on economic capital ($320,000)	=	15.6 per cent
Rate of profit* ($46,000) on net worth plus borrowed money ($270,000)	=	17.0 " "
Rate of net profit ($40,000) on net worth ($170,000).......	=	23.5 " "
Rate of net profit ($40,000) on capital stock ($150,000)....	=	26.7 " "
Rate of profit† ($36,500) on common stock ($100,000).....	=	36.5 " "

Which of these rates is the most significant, and which gives the surest index of reasonableness? Four per cent on sales and 4.2 per cent on costs and 20 cents per pair, standing by themselves, mean nothing. They do not tell us whether the company is making a modest profit or recklessly profiteering. Similarly a rate of 26.7 per cent on capital stock or 36.5 per cent on common stock has no final significance in itself. We must know what percentage of the stock has been paid in, what percentage represents stock dividends or the capitalizing of intangible amounts. Also a rate on preferred and common combined means little.

This leaves two significant figures. The rate of gross profit on economic capital is 15.6 per cent. The rate of net profit on net worth is 23.5 per cent. The former makes it evident that the company is earning almost three times the normal interest rate on the total investment that it uses. In a necessity of life such as shoes, this appears to be high. There is no question therefore as to the possibility of passing some kind of judgment from this standpoint.

From the standpoint of net worth, a rate of 23.5 per cent before paying income taxes rewards the stockholders with better than four times the normal interest rate on their investment.

Which of these two standards, both significant, shall be chosen as preferable? Does 15 per cent on economic capital mean more

* Gross profit after paying rent.
† After paying preferred dividend.

than 23 per cent on net worth? Undoubtedly, the latter figure is the better known and the more significant in the business world.

What is a Reasonable Rate of Profit

Having determined, provisionally at least, a standard by which profit may be measured, the next problem is to fix a specific rate of earnings which may be judged as reasonable. It is not within the limits of the present discussion to lay down any specific rates, and it is probable that such rates should only be laid down by the statesman or the critic after the most searching examination of all the factors involved. The most that can be said at this point is that no allowed rate should ever be less than the current interest rate, and it is obvious that the interest rate should form the foundation for erecting reasonable percentages in multiples above this base line.

Rates falling within the category of reasonableness will vary somewhat between industries according to the risk involved. Thus complete monopolies with little inherent risk in them might well be content with the lowest rate (but little if any above the current interest rate); semi-monopolies might justly claim a higher level as reasonable, while companies in more or less competitive fields might claim still higher rates.

The layman or the statesman who attempts to pass upon the reasonableness of profits or to bring upon a given individual the fearful stigma of a profiteer should exercise the greatest care in weighing relative economic advantages. In general, it may be laid down that a reasonable rate varies directly with the risk involved. It might well be that the soundest method of determining rates in a field where competition still persists to some extent lies in averaging such rates over a series of years, reasonableness being dependent upon the average of the period rather than upon the return in any given year.

Conclusion

Summarizing the argument, it appears that the question of what shall constitute a reasonable profit is permanently before us. It must be faced, whether we like it or not and whether we agree with the economics of it or not. To date no universal standard has been laid down for gauging reasonableness. The most diverse methods are employed and the most careless statements

and conclusions are made. Reviewing the field, it is evident that, of all methods which have been advanced for passing judgment on profits, the rate of economic profit on economic capital and the rate of net profit on net worth are the two tenable bases which have a more or less universal application. Of the two, the rate of net profit on net worth is, undoubtedly, the better understood. If net worth be taken as the standard, a fixed rate of profit thereon cannot be laid down as reasonable for all industries, but such rate must vary according to the extent of risk inherent in the particular business under review. The range of such variation should, however, probably lie between the normal rate of interest as a minimum and several times this rate as a maximum.

Accounting for the Agricultural Machinery Industry*

By William Rolland Wright

Of the various American manufacturing industries, perhaps none requires a greater aggregation of capital in proportion to its output, nor carries with it a larger expense for operation and distribution, than the manufacture and distribution of agricultural machinery.

In considering the subject it is well, perhaps, briefly to classify the products in this line under the following heads:

Implements:
  Plows, cultivators, harrows, etc.
  Planting machinery:
  Planters, grain drills, seeders, etc.

Power and miscellaneous machinery:
  Wind-mills, gasoline engines, grinding machinery, cream separators, etc.

Harvesting machinery:
  Mowers, headers, binders, corn harvesters, rakes, tedders, hay loaders, etc.

Heavy machinery:
  Traction engines, gas tractors, threshers, engine plows, saw-mills, stationary engines, etc.

Aside from the cost of production, the accounting principles involved are largely governed by the method of sale and distribution, which differs to some extent with each line.

Implements, planting and power machinery are usually sold to retail merchants, who in turn sell to the farmer or user.

Harvesting machinery is usually sold direct to farmers, but in some cases the retailer assumes the account. When sold direct to farmers, a profit or commission is included in the sale price for the retailer in whose territory the purchaser resides, as in most cases sales are made through the agent's personal efforts.

Heavy machinery is almost invariably sold direct to the user,

*A thesis presented at the November, 1919, examinations of the American Institute of Accountants.

but the retailer or agent for the territory receives a commission whenever a sale is made through his efforts.

The cost accounting procedure in the manufacture of all the foregoing lines is somewhat similar.

Materials are purchased on a cash basis and considerable time is consumed in building the machinery. The machines are manufactured before orders are received and are carried in stock ready for delivery when sales are made.

Implements, Planting and Power Machinery

Implements, planting and power machinery are usually sold on season contracts containing lease and reserve title clauses which withhold the title to such machinery until payment is complete. These articles are noted for a multiplicity of long and complicated terms on which the machinery is sold and, although a degree of regularity is maintained, the terms on each kind of machine are different.

In many cases it is customary to allow liberal cash discounts, quantity discounts, extended terms and "carry-over-on-next-year's terms" privileges, while in other cases settlement is required on the first of each month by cash less discount, or by note, for all machines sold during the preceding month, these terms to apply for a definite number of months, at the end of which time settlement is required for machines on hand unsold by cash less discount, or by note due on a definite date, often four, six, eight and twelve months after settlement date.

It is customary, when the terms set forth in the season contracts provide for a definite due date, to close all unsettled items into notes maturing on the dates specified. When a contract provides for cash discount allowances if the invoice is paid by a certain date, it is sometimes customary to wait until after the discount date and, if the discount privilege is not used, to close the account by note. At other times notes may be taken before the discount date with the discount privilege written on the margin of the note.

The retailer will hesitate to give notes when his machinery purchases are subject to a carry-over privilege. In such cases it is best to wait until the time to make settlement; then have a representative take an inventory of the machines on hand to be

carried over on extended terms and obtain settlement by note for all items at the respective maturities named in the contract. All notes so taken usually bear interest after maturity.

Considerable bookkeeping can be avoided if accountants will give attention to closing customers' accounts into notes as soon as possible. It may be necessary to train customers to the habit of giving notes, but when once accomplished, it will serve to avoid many disputes—"frequent settlements make friends."

Accountants must not overlook the fact that machines carried over on next season's terms, whether settled by note or not, represent sales on which the profit is not yet earned. It is therefore necessary to reserve a sufficient amount of the apparent profits so that they will not be included in the profits of the current year and paid out as dividends, or for other purposes, as it is quite possible that before the notes taken mature, the machinery carried over may be returned for various reasons.

While it is the custom among manufacturers of implements, planting and power machinery to confine their sales to retail dealers, orders frequently are solicited and taken from farmers or users by manufacturers' representatives and delivery is made through and the account assumed by the retail dealer or agent, who controls by contract the territory in which the sales are made.

When a manufacturer fails to make a satisfactory agency contract in a community, he often finds it necessary to establish his own agency through which to sell his output direct to the user.

With this kind of an agency many aggravations are involved in according for the machines handled, credit risks taken when machinery is sold on time, as most sales are made, and cash and notes taken by the agent in settlement, as so often such an agency is established at some cross-roads in a good farming community with a former canvasser in the same line or perhaps a farmer.

As a rule the selling season for such an agency is short and the person who accepts an agency under such conditions seldom keeps books but depends entirely upon the invoices received for a record of the machines received and carries only a mental account of each transaction.

When machines are sold on time through such an agency, notes made out on forms furnished by the manufacturer are

taken from purchasers in settlement at the time of delivery of the machines, the notes sometimes being secured by chattel mortgage, lease contract or vendor's lien, the form of security adopted being that which is most effective under the law of the state in which the sales are made.

The notes and cash received by the agent are sometimes held by him until settlement time at the close of the season and sometimes sent to the nearest branch house weekly or monthly.

At settlement time a representative of the manufacturer calls upon the agent to make settlement; at which time an inventory is taken of the machines on hand unsold, an accounting made of the cash and notes taken by the agent and an investigation made as to the ability of the makers of the notes to pay.

After determining the net amount due the manufacturer, after deducting commissions due the agent, the representative selects the proper proportion of the good notes and cash receipts. If a deficiency remains, the agent is required to make it up in cash, or, if he is unable to do so, his note is taken for the difference together with the farmers' notes which may have been rejected in the first instance, these latter notes being taken as collateral to the agent's note—or the agent's note may be taken as collateral to the farmers' notes.

Harvesting Machinery

Harvesting machinery differs from implements and other articles in that it has a short season. Sales and distribution are directed principally from the main or branch office and sales are made direct to farmers, for that purpose an army of canvassers is employed, whose work is accomplished within a few months immediately preceding and during harvest season.

It is customary to make season contracts with agents to represent the manufacturer in the farming districts, these agents being either retail merchants, blacksmiths, farmers or some other persons.

The machines are shipped in car lots from the factory to the agency and when less than car lots are ordered, several such lots are consolidated into carloads and the car shipped to a common distributing point whence the less-than-car lots are re-shipped by local freight to destination.

A peculiar difference to be noted between harvesters and implements is that harvester shipments are usually billed to consignees on manifests showing quantities, description and equipment, without showing the price, and accounts with the consignees or agents are kept entirely on a stock record, each kind of machine being accounted for by quantity, size, description and equipment.

In recent years some manufacturers have sold harvesting machinery on the same plan used in the case of implements and planting machinery, with different degrees of success, but exclusive harvester companies find the old method satisfactory.

Agencies are checked up frequently during the selling season and if sales are slow, the machines which an agent may have on hand without prospect of sale are reshipped to other agencies having better prospects, or they may be concentrated at some central point for loading in cars for shipment to a distant market, so that at the close of the season the agencies over the territory will have practically no machines on hand to be carried over.

The advantage in invoicing without a price will no doubt be apparent when the various movements of machines are understood. It is of particular advantage when, as is often the case, the equipment is changed from one machine to another, thereby causing a change in the description and often the size of the machines which can only be accounted for on a stock record on which the various equipment and complete parts are recorded.

When the machines are shipped from the factory, the freight generally follows the shipment, but often the manufacturer advances the freight, which is charged against the agent, to be included in his account at settlement time; and, as most machines are sold f. o. b. factory, it is necessary that the agent collect the factory freight when the machines are sold and delivered.

When machines are taken off the hands of an agent and shipped elsewhere, the factory freight is collected through the railroad as advance charges; and such collections together with the freight collected from purchasers of machines must be accounted for at settlement time.

Harvest season is followed by the settlement and collection season. Settlements require a visit to the agent by the traveling

"blockman" who covers the territory in which the agency is located.

When the blockman calls to make a settlement an inventory is taken of all machines and repair parts on hand. A statement of the machines shipped to and from the agency is furnished the blockman by the accounting department of the main or branch office.

The blockman is required to make the necessary entries on the statement, showing the inventory of machines on hand in quantities and repair parts on hand in total at list price, the detail of parts inventory being shown in the repair list book which is made to be used as an inventory record.

The inventories are then deducted from the items shown on the statement for which accounting is required. The blockman then makes adjusting entries to correct errors and for machines reshipped and not credited on the statement before it left the main or branch office.

After all adjusting entries are made the balance will indicate the quantity, kind, size, description and equipment of machines sold. The blockman is then required to make up a statement on settlement blanks provided for the purpose, generally on the back of the statement furnished by the accounting department of the main or branch office showing the quantity, kind, size, description and equipment of each kind of machine sold, with the name and address of the purchaser and amount received, showing the amount of cash received in the cash column, notes or leases in the note column and the total extended to the total column, thus reducing all machine sales to a dollar and cents basis. All columns are then totaled.

Contra items are then entered for freight adjustments, commissions, allowances, etc., and the total is deducted from the grand total of debits, leaving the net balance for which settlement must be made by the agent.

In the case of harvesters, when the machines are delivered, settlement is obtained from the farmer in cash to cover freight and a part payment on the machines and notes for the balance, which is secured by chattel mortgage, lease contract or vendor's lien on the machines, besides additional security when required.

When sold on time, the notes or lease contracts are made to mature in the fall of the year in one, two and three years with interest and are taken on forms furnished by the manufacturer.

When settlement is made with an agent the notes taken on sales are classified according to the ability and reputation of the maker for paying his obligations. These facts are determined by interviews with local bankers, merchants, etc., as well as a property statement from the maker.

The blockman then completes the settlement by taking good notes and cash in proper ratio to total cash and notes received for machines sold. When more than one note is taken secured by the same lease or mortgage, the complete set is taken instead of dividing them between the manufacturer and agent.

In case any notes are classed as not good, they are rejected by the blockman and any deficiency in the settlement has to be made up in cash or by note by the agent, in which case some or all the rejected farmers' notes may be taken as collateral to the agent's note—or the agent's note may be taken as collateral to the farmer's notes.

In some cases the manufacturer will take all the farmers' notes, and the amount of agent's commissions included in the deferred payments will be accounted for by commission certificates, which are issued to the agent by the manufacturer after the settlement is received and entered on the books at the main or branch office.

In this way the manufacturer protects himself to some extent against losses on the business done by the agent by withholding payment of commission certificates until all or a sufficient amount of the notes taken on sales made by the agent have been paid. In case of any loss on such sales, the agent is made to stand it to the extent to which any commissions due him unpaid may cover the loss.

Heavy Machinery

The methods of sale and distribution of heavy machinery involve more accounting problems, perhaps, than the other kinds of agricultural machinery. Machines in this class are almost invariably sold direct to users. On account of the large amount of capital required, it is seldom that a retailer is financially equipped

to carry such articles on his own account. Most sales, however, are made through the efforts of the local agent or retailer.

When a new machine is completed at the factory, it is turned into completed stock and recorded on a stock record. A separate account is kept thereafter in the stock record with each machine, showing the serial or factory number, description and equipment and cost as equipped. If changes are made on the machine by adding to or taking from it, the cost of such changes is debited or credited as the case requires on the stock record. This record is kept until the machine is finally sold and must include all freight invested in it when shipped to the selling territory awaiting sale.

Machinery in this class is usually sold for part cash and balance due in one, two and three years. Often one or more second-hand machines of the same or different make are taken in trade.

Notes are taken for all deferred payments, which are required to be secured by chattel mortgage, trust deed or lease contract covering the machines sold, the form of chattel security depending upon the laws governing chattels in the state where the machines are sold and to be used.

Additional security is also often taken in the form of chattel mortgages on live-stock, growing crops and anticipated thresher receipts, and mortgages and trust deeds on real estate.

The varying features of the laws of each state in which machinery is sold must be kept constantly before both the accounting and collection departments so that securities may not go by default, as, for instance, in one state, where a lease contract is used instead of a chattel mortgage, by filling the lease contract it amounts to a foreclosure; so it is customary not to file lease contracts in that state until it is found necessary to repossess the machinery. In another state it is necessary to file the lease contract in order to protect the seller and it then virtually becomes what is known in other states as a reserved title or a vendor's lien. In some other states where chattel mortgages prevail, such mortgages have to be renewed annually and, unless so renewed, the security is lost.

Another problem, which is always the cause of more or less concern, arises when the purchaser, without permission from the seller, takes the machinery out of the county or out of the state in which it is sold and to be used and in which the security on

record applies. This often occurs where the purchaser operates near a state line. Wherever there is a possibility of such an occurrence, it is best to have proper chattel instruments covering the machinery also recorded in the counties of the adjoining state in which the purchaser is likely to operate.

One of the items to be considered in accounting for heavy machinery sold on deferred payments is that of deferred profits. Properly to account for such profits it is necessary to set up a sufficient reserve out of the book profits each year to allocate the profits to the years in which they are actually realized, which will be in the years in which the deferred payments are due and paid. Such deferred profits will frequently disappear before the payments become due, for it is not an uncommon thing for a purchaser, after having used his machinery during the first or second season after purchase and realized some income therefrom above the amount of his initial payment, to default on his remaining payments and move out of the country, leaving the machinery on the ground uncared for and subject to the elements and other depreciating conditions.

In such circumstances it is necessary that the seller, as soon as he discovers this condition, follow a legal process known as "repossessing" the machinery, in which case it becomes a second-hand machinery purchase at an appraised value, or, if the appraisal is more than the balance due on the debt, the machinery is taken in at a price sufficient to balance the debt. A similar proceeding is followed in the case of a foreclosure on a chattel mortgage or lease contract.

In case a balance remains due on a claim after allowing credit for the machinery taken back, if there is no chance of collecting the amount still due, it should be closed out to reserve for doubtful accounts.

When taking second-hand machinery in trade or in settlement of a debt, care must be used in appraising the value of the second-hand machinery and sufficient allowance must be made for the cost of rebuilding and placing it in salable condition.

Second-hand machinery taken in trade or otherwise is debited to second-hand machinery purchased at the price at which it is taken.

A separate account is kept in the second-hand machinery stock

record with each second-hand machine. As soon as a machine is taken an account is opened, the machine is given a stock number, which must appear on the account, and the name, kind, description, equipment, etc. and cost or price at which it is taken is entered on the account, with the amount of freight paid.

Most second-hand machinery has to be overhauled and rebuilt, in which case each machine to be rebuilt is entered in the rebuilding department, which is maintained by most of the heavy machinery concerns at the larger distributing branches, on a rebuilding shop order, which should show the stock number and a brief description of the machine.

It not infrequently happens that, after a machine has entered the rebuilding department, it is found to be too defective to warrant the expense of rebuilding, in which case it is sold for scrap and the proceeds are credited to second-hand machinery sales and the amount received and the disposition of the machines are recorded on the stock account.

The separate account carried in the second-hand machinery stock record with each machine serves as a cost account for rebuilding operations. As soon as the machine enters the shop, the stock record account (loose-leaf in form) should be placed in a separate binder or division of the stock record, so that entries for the cost of rebuilding may be made without, having to handle accounts of other machines not in the rebuilding department.

The rebuilding shop order should be made in duplicate and one copy retained in the office as a follow-up.

A suggestion for a form of stock-record account for second-hand machinery is shown on form "A" (see page 445), which provides space in the heading for the stock number and a complete description of a machine. Below the heading, columns are provided from left to right for date, folio, quantity, description and equipment, serial number, original cost, freight, material, direct labor, overhead expense, total rebuilding cost, grand total cost, credits, balance (cost). On the back columns are provided for recording the daily time tickets for direct labor performed on each job each day as shown on form "B" (see page 446).

When a second-hand machine is purchased, the name, description, equipment, size, stock number, from whom received, date and number of credit invoice are entered in the upper part; and in

Form "A"

SECOND HAND MACHINERY STOCK RECORD

Stock No.______

____
Size Name, Description and Equipment
____

SUMMARY

Amount of Sale $______

Received from______ Date______ Credit Invoice No.______

Grand Total Cost $______

Sold to______ Date______ Invoice No.______

Gross Profit-Loss $______

Address______

Commissions $______

Remarks______

Net Profit-Loss $______

	Date	Folio	Quantity	Description and Equipment	Serial Number	Original Cost	Freight	Material and Supplies	Direct Labor	Overhead Expense	Total Rebuilding Cost	Grand Total Cost	Credits (Cost)	Balance (Cost)
				Amounts Forwarded										
				Total-Amounts Forwarded										
				Total-Amounts Forwarded										

Stock No.________

DIRECT LABOR

Form "B"

Date	Employees Number	Number Hours	Amount	Total for Day	Total for Month	Date	Employees Number	Number Hours	Amount	Total for Day	Total for Month
							Amounts Forward				
Total - Amounts Forwarded						Total - Amounts Forward					
Total - Amounts Forwarded						Total - Amounts Forward					

the lower part are entered separately under the proper date and number of credit invoice, the main body of the machine, equipment and attachments, showing cost of each in the original cost column and freight paid in the freight column with total extended to the grand total cost column.

Material used must be entered daily on the account at cost under proper date and in the material column from the material tickets, and the total must be added to the total rebuilding cost and also to the grand total cost. At the end of each day or month the total direct labor for each day or month, shown on the back of the account, must be posted to the account on the front under the proper date and in the direct labor column. The amount of overhead expense based upon a percentage of direct labor must be entered in the overhead expense column. The total of both must be added to the total rebuilding cost and also to the grand total cost so that the account will show the total cost of rebuilding and the total investment in the machine to date.

In case any part of the equipment is taken from a machine while in stock, the cost of such an item is entered under the proper date in the credit column and the balance is extended to the balance column, showing the net investment remaining in the machine.

It is necessary to keep a close watch on the cost of rebuilding second-hand machinery as there is a tendency to spend too much money in rebuilding, thus increasing the total investment to more than the price for which the machines can be sold, in which case they will have to be sold at a loss.

Sample Machines

A large amount of capital is at all times invested in sample new machines, which it is necessary to have on exhibition all over the country to enable agents to make sales, and during the harvesting and threshing season it is necessary to ship large numbers of machines, so that they will be at points convenient for delivery when sales are made, as machines frequently are wanted on short notice which does not permit shipment from the factory.

Samples and machines shipped for quick delivery on anticipated sales are invoiced to agents, but cannot be counted as sales until settlement is made and, therefore, must be included in the inventory. This also applies to machines shipped to agents or pur-

chasers on sale contracts, as it often happens that machines are rejected at destination on account of delay in delivery or because purchaser cannot raise the funds to make the initial payment or for other reasons. Such machinery cannot be considered sold until satisfactory settlement is received therefor.

Heavy machinery is most always sold f. o. b. factory. When machines are shipped as samples or scattered over the country to effect quick delivery on anticipated sales, the freight is often carried by the manufacturer until the machines are sold and reshipped, at which time accrued freight is collected from the purchaser through the railroad, or, if delivered, collection is made through a bank or sales agent.

An accounting must be made for freight collected through the railroad and other sources. It often happens that through oversight of the shipper or railroad clerks such freight is omitted from the bill of lading or way-bill and the shipment is delivered and local freight collected without the advance charges. The purchaser of the machine cannot be reached, settlement having been made when the machine was delivered, and the omission of advance charges may not be discovered until a long time afterwards, often too late for collection, in which case, if the railroad is at fault, it is required to make good the amount, or, if some one else is responsible, it may result in a loss.

Settlements and Commissions

When sales are made through agents, settlements with purchasers may be made by the agents, manufacturer's representative or by a bank at the delivery point. When settlement is made by an agent, that portion of his commission included in the initial cash payment is withheld by the agent. If made by the manufacturer's representative or a bank, the cash commission is remitted to the agent when the settlement is received at the main or branch office. For the commissions included in deferred payments, commission certificates are issued to agents payable when the notes given by the purchaser of a machine are paid.

Outstocks

On account of the heavy freight on local shipments of implements, planting, power and harvesting machinery, and in order

to effect delivery to the retailer as nearly as possible at carload rates, it is necessary to maintain "outstocks" with transfer and storage agents so that less-than-car lots can be reshipped by local freight by the transfer agent and the freight at carload rate from factory to transfer point, plus a storage and transfer charge, can be collected through the railroad by inserting in the bill of lading the amount to be collected. This amount is then included by the railroad in the way-bill as advance charges.

By collecting the factory freight in this way, the amount invested in freight on outstocks is returned to the manufacturer soon after reshipments are made.

When a transfer agent reships machines, he is required to make to the manufacturer a report of each shipment, showing the quantity and description of the machines shipped, amount of advance freight collected and transfer fee. The transfer agent is required to collect the advance charges from the railroad and remit to the manufacturer as collections are made from the railroad.

It is important that the accounting department keep a close check upon transfer agents to the end that all advance charges be collected and remitted promptly.

Outstocks are frequently carried with retail dealers at good shipping and distributing points. The retailer is given the privilege of drawing machines from outstocks for his own sales, but he frequently neglects to report such withdrawals when they are made. At the same time the main or branch office is carrying a stock record account of machines in outstocks, showing a certain quantity on hand with transfer agents, and is not notified of such withdrawals until the machines are ordered out for other customers, dissatisfaction resulting on the part of the other customers on account of the delay.

The only way to avoid this is to insist that transfer agents report withdrawals immediately after making such withdrawals. Machines in outstocks cannot be treated as sales until drawn from outstocks for that purpose.

Repair Parts

Repair parts are usually sold on a cash basis, but it is necessary to supply agencies and retailers as well as transfer agents with a

general assortment of repair parts on consignment so that users may be supplied promptly when the urgency of the season requires quick delivery.

When repair parts are shipped on consignment, they are usually invoiced at list price and an accounting is made at the end of the season when settlement is made for repair parts sold at list price less trade discount.

Repair parts shipped on consignment must be accounted for at the main or branch office as "outstocks," as they are returnable on demand of the manufacturer. Therefore it is important that repair parts should not be included in sales until they are actually sold.

The user frequently finds it necessary to order repair parts direct from the factory, especially in the case of harvesters and heavy machinery. It is important that repair parts orders be filled promptly to meet the urgency of the season and to keep machines from being thrown back on the manufacturer on account of delay in obtaining repair parts. Therefore it is necessary that such shipments be sent c. o. d. and at list price.

It often happens that an agent is entitled to a commission or discount on sales made direct to user. In that case, when returns are received from the c. o. d., a credit must be made to the agent or retailer into whose territory the shipment is made, for the amount of the trade discount which he would have received if the sale had been made through him.

Repair Parts Returned for Credit

When repair parts stocks are returned for credit by agents and retailers, it is not an uncommon thing for them to include in such returns good parts showing no sign of usage which may have been taken from some old discarded machine, for which the agent or dealer paid nothing but would gain substantially if credit were allowed for such parts, as in many cases the credit would amount to more than the price of the complete machine from which they were taken.

A comparison of the list of repair parts shipped to agents with the list of the repair parts returned will aid in determining whether credit should be allowed for all parts returned or not.

Defective Repair Parts

One of the things which requires careful attention on the part of the accountant and auditor is the allowance of claims for defective repair parts.

There is, seemingly, a tendency among users and agents to take advantage of the manufacturer in this respect. As free repair parts allowances run into a great deal of money each year, it is important that such claims undergo the closet scrutiny and all defective repair parts be returned for inspection.

Defective Machines

In the course of a year's business, more or less machinery is returned on account of defective materials, improper workmanship in designing and construction, or the machinery may be entirely unfitted for the purpose for which it is intended to be used in the territory in which it is found to be defective or inefficient.

Such machinery, when returned, is seldom in salable condition. Sales are reduced and expense increased by return freight and handling charges. Some returned machinery is nothing more than scrap, but in some cases there may be parts which are perfectly sound and can be used elsewhere, or they may be interchangeable with other machines. In other cases the machines returned may, by applying a coat of paint, be put in salable condition and used in some other territory.

All these conditions must be carefully considered by the auditor and accountant to the end that the inventory shall not be padded with worthless and unsalable machinery; that profits and losses may be allocated to the years in which they belong; and that, for statistical purpose, correct comparisons may be made of the progress of the business over a period of years.

Depreciation Policy and True Cost

By J. Hugh Jackson

During this period of rising prices it has come to be a common question whether depreciation should be charged on the basis of the cost of wasting assets or on the basis of what it will cost to replace these assets when worn out. The policy adopted by the individual manufacturer must be reflected directly in the cost of the commodities produced, for that policy will determine whether a larger or a smaller amount for depreciation is to be charged annually as an operating cost.

To make the point more concrete, suppose a saw-mill which originally cost $1,500,000 will require $4,000,000 to replace it—shall the annual depreciation charge to operations be made on the basis of the original cost or of the replacement cost of the plant? Or, to express it differently, is the purpose of the depreciation charge to maintain the capital investment or to replace the physical plant?

The answer to these questions is the answer to "What is true cost?" The cost of doing work or of producing commodities includes the loss due to the physical and functional depreciation of fixed assets, and this wearing out and this obsolescence are incurred during the life of the equipment. Hence, this expense is chargeable against the product turned out during the life of the assets, and not against any product turned out after their lifetime. The original cost of the equipment, less any salvage value, is the depreciation expense chargeable to the total output of a plant during its economic life. The fact that the plant cannot be replaced at the same cost, but only at much more, has nothing to do with the cost of its product but only with the cost of future product turned out by the subsequent plant. True cost, therefore, can be obtained only by including as total depreciation the loss based on the original cost of the equipment.

On the other hand, the fact that true cost can only be obtained by using a depreciation charge based on the original cost of the plant does not mean that prices must be fixed on the cost figures so found. This would mean that the customer gets the

use of low-cost plant in the days of high-cost plant. It is not a question of accounting, but of business policy, whether the manufacturer or the customer is to get this advantage. Most equipment now in use has been purchased when prices were lower than at the present time. True costs are considerably lower than they would be if the depreciation charge to operations were made on the basis of replacing the present physical plant, so, unless a somewhat greater percentage is added to the cost to obtain selling price, the customer will have the benefit of the fact that most equipment was purchased when prices were lower than now. Actual cost, however, is a fact, whatever policy is adopted; cost cannot change so far as the depreciation expense is concerned.

If the manufacturer is to charge the customer such prices as will furnish sufficient funds to replace the plant at considerably higher prices than what it originally cost, it is really asking the customer to furnish the additional capital required by a higher level of prices. In the case of a public utility, the guaranteed return would have to be high enough to cover all operating expenses, including depreciation. In addition a fair return would have to be given the investor, and the necessary funds provided to cover the increase in the cost of a new plant over the equipment now in use. It is obvious that either this higher rate return must be granted or the utility must be assured that it will be allowed to obtain needed capital when the present plant has to be scrapped and new plant, at considerably higher prices, has to be installed. In such a case, however, borrowed capital must be considered the same as invested capital and the interest on bonds as a division of the profits under the guaranteed return, rather than an operating expense. As it may be years, even a generation, before any large proportion of the plant has to be replaced at the higher price level, it would seem fairer to permit the utility to earn only on the basis of replacing the plant at present prices. In other words, the present customers of the utility should pay for their service received the actual cost of that service, plus a fair return on the capital actually invested. When the plant is replaced at the higher price level the users of the service at that time should pay for the actual cost of that service, plus a fair return (either as interest on bonds or as dividends on stocks) on the capital then invested. Besides being unfair to collect from present customers

the additional capital to serve the customers of a future generation, the capital which is thus being collected may stand unused for a considerable number of years. This should not be, especially if the municipality will allow the obtaining of additional capital when such is necessary.

In case of an industrial organization, the principle is the same. As the obtaining of additional capital, however, is on a somewhat different basis from that of a public utility with its assured return, it would seem only just that the customer pay enough to compensate the manufacturer for the use of his equipment at whatever the market price may be and without considering at all what the manufacturer may have paid for that equipment. In other words, the manufacturer would provide for the replacement of his plant at the higher price level, regardless of what the real cost of the equipment was—the portion of the additional capital to be contributed by the customers depending upon the remaining life period of the equipment in use. Thus, if the increase in the replacement cost of the equipment takes place early in the life of the assets, the customer will pay most of the additional replacement cost, for he has had the benefit from wearing out the more valuable plant; but if the increase comes late in the life of the equipment, the manufacturer must provide most of the increased capital, for the customers have not utilized so much of the increased value. It is assumed here, of course, that the proprietor has the right to benefit from the ownership of a utility at a time when it becomes more valuable, it being one of the chances of proprietorship to gain when things go up and to lose when they go down.

Whatever policy, then, may be adopted, the depreciation expense over the life of present equipment must be the same. Using the illustration above given of the saw-mill costing $1,500,000, which will require $4,000,000 to replace the plant, the annual charge to operations for depreciation must be based on the $1,500,000 figure. Whether the customer or the producer shall have the advantage of the low-priced equipment may greatly affect the selling price of the commodity produced, but it cannot change the cost. In case the customer reaps the advantage of the low-cost equipment the selling-price of the article will be made up of (a) a certain sum representing cost and (b) a sum representing

normal profit. In the other case the selling-price must equal (a) a certain sum representing cost, (b) a certain sum representing provision for replacement (and being an actual surplus) and (c) a balance as normal profit. By the time the saw-mill equipment (for illustration) is entirely worn out and ready to be scrapped, the reserve (or allowance) for depreciation account should stand credited for the original cost, less salvage, of the plant; while a reserve for replacements (or similar account representing actual surplus) would stand credited on the books for such proportion of the additional $2,500,000 necessary to replace the saw-mill at the increased price level as the manufacturer was able to collect from customers.

This reserve for replacements would have been subject, year by year during its realization, to the federal taxes. Whether the account should stand credited for the gross amount representing provision for replacement or the proportionate part of the taxes should be charged against the account, thus reducing it considerably, is largely or entirely a matter of policy and not of accounting. Obviously, the desire at present on the part of many manufacturers to include a depreciation charge in their costs sufficient to replace the present equipment at much higher prices is to escape the tax on all sums collected as a provision for the replacement of the property. Not only, as stated above, would this misstate the true costs—it would not be tolerated for an instant, we are sure, by the internal revenue bureau—neither should it be.

When the new plant is purchased at the higher price level, the old plant account would be closed out to the reserve (or allowance) for depreciation account (theoretically balancing both accounts, having adjusted for salvage), the new plant account would be charged and cash (for illustration) credited and the reserve for replacements could then be turned back into surplus and be used for stock dividends or in any other way desired by the board of directors. These final entries show conclusively how the additional necessary capital, to the extent of the reserve for replacement, has been contributed by the customers of the business—an additional payment made by them for the privilege of using low-cost plant in the days of high-cost equipment.

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EDITORIAL

Hanging Out the Shingle

In these days when the accounting profession is offering increasing attractions to men starting out in life it is not astonishing that there should be a good deal of discussion among the younger men as to the methods by which they may properly establish themselves in practice and share in the prosperity which attends the practitioner of good standing.

The old question of the propriety of bringing one's self to the notice of the public by means of advertisement, circular or other agency will probably never be definitely settled to the satisfaction of the novice.

The young man crammed full of accounting theory and imbued with enthusiasm on the subject of his innate abilities will almost always feel to begin with that all that is necessary to bring himself into prominence is the announcement of his readiness to be consulted. He feels that the wider the distribution given to this announcement the better for himself and, incidentally, the better for the public. Consequently, the attitude of the Institute on the subject of advertising does not meet with the entire endorsement and approval of the young men who are not yet established.

A letter written by a young accountant to one of the established members of the profession in a large western city so well presents the view of many men in his condition that it is worthy of reproduction. In the course of the letter the following paragraphs occur:

It has been observed by the writer in a large percentage of cases that the general idea of the layman in regard to the employment and duties of the C. P. A., is rather hazy; many of them think that the detection and

running down of defalcations is his sole object in life, and, unless some set of circumstances arises under which it is necessary to check up an employee, an accountant is never thought of nor employed. This may not be altogether true in the east, where accounting has been earlier recognized and its advantages realized, but the west has not advanced in education quite so rapidly, and in the endeavor to correct this condition this letter is written.

Many papers have been written and read before the Institute advising the accountant, and particularly the young one just setting out in business life, as to the proper course of procedure in his efforts to procure business. Almost all of them have been to the effect that he must not advertise, solicit, approach, waylay, entice or blackjack prospective clients or the clients of other accountants, but must establish himself in an elaborate suite of offices, surround himself with a competent staff of stenographers, juniors, seniors and chief assistants, calmly seat himself in his large chair with great dignity, don his wisest look and await with all the patience he may possess the coming of a large clientele. Any time he may find in which he is not occupied with his dignified waiting may be employed in writing theses on the higher branches of his profession, issuing daily orders to the staff, instructing them in the most popular ways of killing time, and, last but not least, draw the monthly cheques for payroll and office rent.

In other words, we are told very specifically what we must not do, but very little aid has been given in determining just what we may do individually, with propriety, along the line of educating the layman and convincing him that the services of an accountant would be a benefit. Is it not true that up to the present time the layman has been allowed to pursue a course of self-education, which we all know to be a very slow process? It has been found by modern educators that, using an engineering term, the forced-draft method has achieved the quickest and best results, and it is believed by the writer that some such method, if applied in behalf of the art of accounting, would rapidly create more clients, thus benefitting the profession as a whole.

Don't you think that the Institute as a body should undertake this educational duty rather than leave it to the individual?

Would it not be ethical and good business on the part of the Institute to create a fund of sufficient size to pay for a series of educational letters to be published in trade and business association publications, setting forth to retailers, jobbers, wholesalers, manufacturers, producers and banks the advantages to be gained by proper accounting and auditing?

A series of such papers setting forth all the advantages of accounting, promulgated with the authority and backing of the Institute, would undoubtedly give the layman a truer, broader and more correct idea of the object and aims of the profession, foster better business methods, bring about a more stable financial condition, and incidentally aid the accountant, both old and young, in his efforts to advance in his chosen line of endeavor without having any occasion to overstep the bounds of propriety, as is sometimes done when the individual is left to his own devices.

The suggestion contained in the foregoing letter relative to dissemination of information by means of educational bulletins or letters from the Institute was tried without any great amount of success by the American Association of Public Accountants, prior to the formation of the American Institute of Accountants. Several concise and convincing pamphlets were prepared and it was suggested to state societies of accountants that they distribute these pamphlets among the business and financial public of their

districts. The suggestion was adopted by a considerable number of state societies, but after one or two experiments the plan was dropped, and, so far as advices have been received, no great results attended the effort.

There is, of course, a deal of truth in the statement made in the foregoing letter that a man starting out for himself, without friends or record to aid him, may wait for some time before reaching a position of independence in the accounting world. We cannot imagine any great public demand for the services of an unknown and untried accountant, and it is quite clear that the first few years of an accountant's independent practice are apt to be a period of abundant leisure and lean returns.

But the same thing may be said with equal force of the new-comers in every professional field. The inactivity of the young lawyer and doctor have been the theme of comment and jest from time almost immemorial. There is no reason to believe that the young accountant should not go through the same period of dearth as his brethren of the other professions.

As a matter of fact, however, the inactive time in the case of an accountant is generally far less than among other professions because of the great demand which has arisen for accounting services and the comparatively small number of practitioners. It is not at all uncommon in these days to hear of clients seeking accounting services and going from office to office without being able to find any one with time to assist them. Consequently, the young man who hangs out a shingle may attract an occasional stray client and thereby begin to establish himself more quickly than would a physician or lawyer in similar circumstances.

There is another difference between some of the older professions and accountancy in that many of the men who open new offices have had several years' experience in the offices of other accountants. During those years they have probably acquired a circle of friends who are familiar with the excellence or faults of their accounting work. In all too many cases the young men breaking away from an older organization try to take with them some of the clients of their former employers. This is altogether reprehensible and should not be countenanced for a moment, but the fact remains that many accounting practices have begun with the seduction of clients of former employers.

It seems to us that it would be perfectly legitimate for the

young man who desires to start an office for himself to retain the friendship of the clients of the firm for which he has worked. In all probability, those clients would be able to throw his way, either directly or indirectly, a certain amount of work which would be acceptable to any young practitioner.

In the letter which we have quoted above, the writer, for the sake of emphasis, goes to extremes. Of course, there is no necessity for the young man starting out for himself to pay salaries or to incur expenses beyond a modest office rent—if any rents are modest nowadays—and his own living costs. The suites of offices and large numbers of employes can be postponed until practice warrants the expenditure of the additional money. In point of fact, we have heard of new accounting concerns starting out with much mahogany and green carpet which soon came to the point of dissolution of partnership and in some cases to the appointing of receivers. Had they adhered to plain desks and chairs for a while they might be in existence still.

But in any case, whatever the conditions, we fail to see wherein the use of advertisement would assist the young accountant. It has always appeared to us that the business man or banker or other potential client who would be charmed by advertising or circular letters would be a client scarcely worth having. It is difficult to imagine a man of good sense employing a doctor who advertised or a lawyer who advertised on the strength of the advertisement only. It seems even more extraordinary that there can be any man in business who is willing to lay before a total stranger the most intimate details of his business affairs without something more convincing as to the accountant's integrity and standing than is any ex-parte advertisement.

Of course, every accountant who is worthy the name has a feeling of sympathy with the young man who seeks to establish himself in the profession; and the difficulty of overcoming the lean years without actual disaster is one that is sometimes quite real.

But, then, on the other hand, it is the rarest exception in any business or profession or trade to achieve success without a certain number of years of effort and possibly of privation.

The fact to be remembered is that the man who has the qualifications of an accountant and the persistence to adhere to it will ultimately reach the plane of those who have succeeded.

Income-Tax Department

EDITED BY STEPHEN G. RUSK

The matter of most absorbing interest at present to accountants giving their attention to the subject of federal taxes is the decision of the United States supreme court that stock dividends are not taxable as income.

This interest is accentuated by reading the decision delivered by Justice Pitney and by the lucid definitions contained therein, as, for instance, the definitions of income and of the difference between a true stock dividend and other dividends.

The latter follows:

"A 'stock dividend' shows that the company's accumulated profits have been capitalized, instead of distributed to the stockholders, or retained as surplus available for distribution in money or in kind should opportunity offer. Far from being a realization of profits of the stockholder, it tends rather to postpone such realization, in that the fund represented by the new stock has been transferred from surplus to capital, and is no longer available for actual distribution."

It would seem that if accountancy's terminology were adequate to express, in a word or phrase, precisely the transaction described in the above quotation, and the particular language describing it had become common, much of the confusion of mind, out of which grew the taxing of so-called stock dividends as income, would not have been present.

This is only one of many instances which show the necessity for expansion of the terminology of accountancy.

Accountants generally have found it difficult in many instances to express their thoughts intelligibly to the lay mind. This difficulty is sometimes occasioned by the lack of knowledge upon the part of the one with whom the accountant is dealing, as to the fundamental fact that all transactions in business represent an exchange of values. It is more often occasioned by the fact that the lay mind does not comprehend the technical terms of accountancy, and this lack of knowledge is emphasized by the want of precise language with which to express thoughts related to accounting.

Many a member of the profession has experienced difficulty in making clear to a jury some matter of considerable moment because of the lack of adequate language with which to clothe his thought.

Upon consideration of the matter of terminology, it would seem to be the duty of an accountant first to consult his own vocabulary, purge it of inaccuracy and learn the exact meaning of each word contained therein, and thereby be prepared to define his meaning in clear and non-technical language.

These thoughts as to the limitations of accounting terminology are brought to mind, again, by the language of paragraph 3-a of the regulation

contained in mimeograph 2436, entitled "Further instructions relating to overpayment of taxes of stock dividends."

The above-mentioned paragraph reads as follows:

"Whether the dividend consists of the stock of the corporation distributing the dividend to the taxpayer, *or of stock of another corporation acquired by the distributor.*"

It would seem from a superficial reading of the above paragraph, and without the information contained in the description of a stock dividend, as contemplated by the majority opinion of the United States supreme court, quoted above, that stock dividends include a distribution by a corporation of any stock of another corporation it may have among its assets.

The particularly concise description of a stock dividend contained in the supreme court decision should prevent misunderstanding about this matter, as the application of the above principle to the particular case that may be before the taxpayer or his accountant will remove all doubt as to whether the distribution of stock of another corporation constitutes a taxable stock dividend or not.

It seems to be the duty of the accountancy profession to coin a word or phrase to express the exact meaning of the transaction wherein a distribution of shares of capital to stockholders constitutes simply a transfer of surplus to the capital stock of a corporation.

(Mim. 2436, March 12, 1920)

Further instructions relative to overpayments of taxes on stock dividends

Supplement office telegram of March 9, 1920, and I. T. Mim. 2429, you are advised that a claim for credit on form 47A for payment of tax on stock dividends is to be accepted as a suspension of immediate collection of tax due only—

(1) Against income or income and excess profits taxes due and unpaid.

(2) If amount claimed as a credit does not exceed the amount of tax collected on the stock dividend less any additional tax due and unpaid upon the sale of stock received as a dividend or stock upon which the dividend was declared. (The basis of determining the gain or loss upon sale of stock is stated in regulations 45, article 1547, paragraphs 1 and 2. That article provides that the cost of each share of stock is the quotient of the cost of the old stock divided by the number of old and new shares added together.)

(3) When accompanied by an affidavit of the taxpayer (supported by statements from the corporation which distributed the dividends as to the amount distributed to the taxpayer and years in which the profits distributed were earned) covering the following information:

(a) Whether the dividend consists of stock of the corporation distributing the dividend to the taxpayer, or of stock of another corporation acquired by the distributor.

(b) The name of each corporation declaring, the declaration of, and the date of receipt by the taxpayer of, the stock dividends, the tax on which was paid and is covered by the claim.

(c) The year in which the stock dividend was included in the taxpayer's return of income.

(d) The number of shares the taxpayer received and the value placed upon the dividend in the return.

(If no sale of stock was made the taxpayer need not furnish the following information):

(e) If any sale has been made of stock of the corporation de-

claring the dividends, whether the stock be that acquired by a dividend, or upon which the dividend was declared, state—

(1) The number of shares sold.
(2) The selling price.
(3) The date or dates of sale.
(4) The portion, if any, of the selling price included as taxable profit in the return of net income for the year the sale was made and the item in the return under which the amount was reported.

(f) State how many shares of stock the taxpayer owned at the time he received the first stock dividend. How much that stock cost the taxpayer and the date the stock was acquired. (If acquired prior to March 1, 1913, state its value on that date and manner of determining the value.)

(g) State separately the dates from March 1, 1913, upon which you received stock dividends, the number of shares received on each date and the names of the corporations distributing the dividends.

The receipt or cancelled cheque covering the payment of tax involved in the claim should be attached to the claim.

(T. D. 2998, April 10, 1920)

Revenue Act of 1918

Deductions allowed: Charitable contributions, article 251, regulations No. 45 (amended)

Article 251 of regulations No. 45 is hereby amended to read as follows:

Art. 251. *Charitable contributions.*—Contributions or gifts within the taxable year are deductible to an aggregate amount not in excess of 15 per cent of the taxpayer's net income, including such payments, if made (a) to corporations or associations of the kind exempted from tax by subdivision (6) of section 231 of the statute, or (b) to the special fund for vocational rehabilitation under the vocational rehabilitation act of June 27, 1918. For a discussion of what corporations and associations are included within (a) see article 517. A gift to a common agency (as a war chest) for several such corporations or associations is treated like a gift direct to them. In connection with claims for this deduction there shall be stated on returns of income the name and address of each organization to which a gift was made, and the approximate date and the amount of the gift in each case. Where the gift is other than money the basis for calculation of the amount of the gift shall be the cost of the property, if acquired after February 28, 1913, or its fair market value as of March 1, 1913, is acquired prior thereto, after deducting from such cost or value the amount, if any, which has been or which should have been set aside and deducted in the current year and previous years from gross income on account of depreciation, and which has not been paid out in making good the depreciation sustained. A gift of real estate to a city to be maintained perpetually as a public park is not an allowable deduction. The proportionate share of contributions made by a partnership to corporations or associations of the kind included in (a) above and to the special fund for vocational rehabilitation specified in (b) may be claimed as deductions in the personal returns of the partners to an amount which, added to the amount of such contributions made by the partner individually, is not in excess of 15 per cent of the partner's net income computed without the benefit of the deduction for such contributions. However, the contributions made by the partnership shall not be deducted from its gross income in ascertaining the amount of its net income to be reported on form 1065 (revised). See article 321. This article does not apply to gifts by estates and trusts or corporations. See section 219 of the statute and articles 561 and 562.

This decision supersedes T. D. 2966 and T. D. 2977.

Students' Department

EDITED BY SEYMOUR WALTON
(ASSISTED BY H. A. FINNEY)

UTILITY OF PERCENTAGES

In the C. P. A. examination given in Ohio in October, 1919, there was included a problem of a very peculiar nature. As will be seen, a complete statement of a year's business, including the balance-sheet, is required, and the only actual figures given are those for the net profits of the year and the depreciation on plant and machinery. It is necessary, in order to find all the other items of cost and expense, of assets and liabilities, to apply to these figures certain percentages that are given and to these results to apply other percentages, and thus step by step to build up the completed statements.

Of course, in actual practice such a problem would never confront the accountant. The books themselves would show the actual amount of the sales and of the various expenses, etc., in dollars and cents, and not in percentages of other items. Therefore the problem may be said to have no practical value. As an extreme example of the kind of deductions that an accountant is sometimes obliged to make, it has a value as training in what is called synthetic or building-up reasoning in distinction from analysis, which is the separation of a completed whole into its constituent parts.

Unless an accountant is thus able to follow such a line of reasoning, he is liable to overlook important information which can best be exhibited by percentages in reporting to a client on the facts disclosed by his audit.

Problem from the Ohio C. P. A. Examination, October, 1919

The American Manufacturing Company commenced business on January 1, 1918, with a paid-up cash capital equal to the sales for the year 1918.

The net profits for the year 1918 were $26,100.00.

Of the total charges to manufacturing during the year, 40 per cent was for materials, 30 per cent for productive labor, and 30 per cent for manufacturing expenses (including 5 per cent depreciation on plant and machinery, amounting to $3,000.00).

The value of the material used was 80 per cent of the amount purchased, and 90 per cent of the amount purchased was paid during the year.

The inventory value of finished goods on hand at December 31, 1918, was 10 per cent of the cost of finished units delivered to the warehouse, and the work in process at that date was equal to 50 per cent of the cost of units delivered to the warehouse.

The selling and administrative expenses were equal to 20 per cent of the sales—also to 40 per cent of the cost of goods sold. Ninety per cent of these expenses were paid during the year 1918. Plant and machinery purchased during the year were paid for in cash.

All labor and manufacturing expenses (exclusive of depreciation) were paid in full up to and including December 31, 1918.

Of the total sales for the year, 80 per cent was collected and 1 per cent charged off as worthless.

From the data given you are required to prepare a balance-sheet and a

profit and loss statement, showing cost of goods delivered to the warehouse, cost of goods sold and net profit for the year.

Solution

Let sales =		100%
Then (since selling and administrative expense is 20% of sales, or 40% of cost of goods sold) the cost of goods sold is half of the sales		50%
And the gross profit is		50%

(That is, if a is 20% of x and is also 40% of y, then y must be half of x.)

The selling and administrative expenses	20%	
And bad debts	1%	21%
Hence the profit is		29%

Then 29% = $26,100.00.

And 100% = $90,000.00, the sales for the year and the cash capital at the beginning of the year.

Cost of goods sold = 50% of $90,000.00	=	$45,000.00
Gross profit	=	45,000.00
Selling and administrative expenses	=	18,000.00
Bad debts	=	900.00

Since the inventory of finished goods at December 31, 1918, was 10 per cent of the cost of the finished units delivered to the warehouse, the cost of goods sold was 90 per cent of the finished goods manufactured during the year.

Then $45,000.00 ÷ 90 per cent = $50,000.00 the cost of finished goods manufactured.

And $50,000.00 — $45,000.00 = $5,000.00 the inventory of finished goods at December 31, 1918.

Since the work in process at December 31, 1918, was 50 per cent of the cost of finished goods delivered to the warehouse,

50% of $50,000.00 =	$25,000.00	work in process inventory.
	50,000.00	goods finished during 1918.
	25,000.00	work in process at Dec. 31, 1918.
	$75,000.00	total manufacturing cost of 1918.
40% of $75,000.00 =	30,000.00	cost of material used.
30% of 75,000.00 =	22,500.00	" " productive labor.
30% of 75,000.00 =	22,500.00	" " manufacturing expense.

Of this manufacturing expense, $3,000.00 was depreciation on plant and machinery; hence the manufacturing expense paid in cash was $19,500.00. Since the rate of depreciation was 5 per cent, the cost of plant and machinery was $60,000.00, all of which was paid for in cash.

Since 80 per cent of the material purchased was used in manufacturing,

\$30,000.00 ÷ 80 per cent = \$37,500.00, the cost of the material purchased; and \$7,500.00 is the inventory of raw material at December 31, 1918. Also 90 per cent of \$37,500.00, or \$33,750.00, is the amount of cash paid for purchases, and \$37,500.00 — \$33,750.00 = \$3,750.00, the accounts payable at December 31, 1918, for purchases.

The selling and administrative expenses were \$18,000.00. Of this amount, 90 per cent, or \$16,200.00, was paid in cash. The remainder, \$1,800.00, is an addition to the accounts payable.

Eighty per cent of the sales of \$90,000.00 were collected. One per cent was written off. Hence,

Sales		\$90,000.00
Less cash collections	\$72,000.00	
Bad debts	900.00	72,900.00
Balance of accounts receivable		\$17,100.00

The cash summary is:

Cash capital paid in	\$90,000.00	
Collections on accounts receivable	72,000.00	162,000.00
Deduct		
Plant and machinery	\$60,000.00	
Materials	33,750.00	
Productive labor	22,500.00	
Manufacturing expense	19,500.00	
Selling and administrative expense	16,200.00	
Total disbursements		\$151,950.00
Balance		\$10,050.00

AMERICAN MANUFACTURING COMPANY

Trial Balance

December 31, 1918

Capital stock		\$90,000.00
Plant and machinery	\$60,000.00	
Reserve for depreciation, plant and machinery		3,000.00
Sales		90,000.00
Purchases	37,500.00	
Productive labor	22,500.00	
Manufacturing expense	19,500.00	
Depreciation, plant and machinery	3,000.00	
Selling and administrative expense	18,000.00	
Bad debts	900.00	
Accounts receivable	17,100.00	
Accounts payable (\$3,750 + \$1,800)		5,550.00
Cash	10,050.00	
	\$188,550.00	\$188,550.00

Inventories: Raw material, $7,500.00; goods in process, $25,000.00; Finished goods, $5,000.00.

AMERICAN MANUFACTURING COMPANY
Profit and Loss Statement
Year Ended December 31, 1918

Sales			$90,000.00
Deduct:			
Cost of goods sold			
Material:			
Purchases	$37,500.00		
Less inventory, Dec. 31, 1918.....	7,500.00	$30,000.00	
Productive labor		22,500.00	
Manufacturing expense		19,500.00	
Depreciation—plant and machinery		3,000.00	
Total manufacturing cost.....		$75,000.00	
Deduct goods in process—Dec. 31, 1918		25,000.00	
Cost of finished goods manufactured		$50,000.00	
Deduct inventory finished goods—Dec. 31, 1918................		5,000.00	45,000.00
Gross profit on sales			$45,000.00
Deduct:			
Selling and administrative expense		$18,000.00	
Bad debts		900.00	18,900.00
Net profit			$26,100.00

AMERICAN MANUFACTURING COMPANY
Balance-Sheet
December 31, 1918

Assets			*Liabilities*	
Plant and machinery.....	$60,000.00		Capital stock	$90,000.00
Less depreciation.........	3,000.00	57,000.00	Surplus......	26,100.00
Raw material............		7,500.00	Accts payable	5,550.00
Goods in process.........		25,000.00		
Finished goods...........		5,000.00		
Accounts receivable......		17,100.00		
Cash		10,050.00		
		$121,650.00		$121,650.00

Interdependent Variables

Editor, Students' Department:

Sir: Will you be kind enough to publish the solution to the following question? Prepare a consolidated balance-sheet on the basis of the following facts:

A

Assets	$100,000.00	Liabilities	$50,000.00
Stock of B (par)	15,000.00	Capital stock	75,000.00
" C "	15,000.00	Surplus	5,000.00
	$130,000.00		$130,000.00

B

Assets	$50,000.00	Liabilities	$40,000.00
Stock of C (par)	5,000.00	Capital stock	25,000.00
Deficit	10,000.00		
	$65,000.00		$65,000.00

C

Assets	$50,000.00	Liabilities	$10,000.00
Stock of B (par)	5,000.00	Capital stock	25,000.00
		Surplus	20,000.00
	$55,000.00		$55,000.00

Your kindness will be greatly appreciated by

Yours very truly,
Student.

This is a good example of what may be called interdependent variables. In order to make a consolidated balance-sheet, it is necessary to replace the par values of the B and C stocks with their respective book values. Since B owns 20 per cent of the capital stock of C, the value of that asset on B's books should be increased to equal 20 per cent of the net worth of C. But increasing the value of an asset on B's books will necessarily increase the net worth of C, since C owns 20 per cent of the net worth of B. Thus any change in valuation of the stock of B and C is reflected back and forth in the net worth of each of the companies. In order to find what the eventual result will be, it is necessary to adopt some method by which amounts will be obtained that need no further re-adjustment.

It is frequently asserted that the time devoted to the study of algebra in school is virtually wasted, except for the mental training acquired. However true this may be as to others, it does not apply to accountants. The practising accountant finds many occasions when the basic principles of algebra are a valuable help to him in his work. It would be difficult to answer the question we are now considering in any other way than by algebra. Therefore, we will adopt that method, but first we will obtain simpler figures by using net assets instead of assets and liabilities in our working papers only.

This will eliminate from the balance-sheets of B and C any credit items

except the net worth of each company, composed of the capital stock less deficit or plus surplus as the case may be.

Since the entire answer depends on the true net worth of these two companies, these are the two unknown quantities to be determined. These unknown quantities we will represent by x and y, and fractions of x and y can be used for other quantities. This will produce the following condensed balance-sheets.

B

Net assets..............	$10,000.00	Capital stock..	$25,000.00	
C stock................	1/5 y	Less deficit,...	?	x

C

Net assets..............	$40,000.00	Capital stock..	$25,000.00	
B stock................	1/5 x	Surplus	?	y

Let x = net worth of B,
y = net worth of C.

Then from the revised balance-sheets we see that

$$x = \$10{,}000.00 + 1/5\,y \left(\text{or } \$10{,}000.00 + \frac{y}{5}\right)$$

$$y = \$40{,}000.00 + 1/5\,x \left(\text{or } \$40{,}000.00 + \frac{x}{5}\right).$$

To eliminate the fraction, multiply both sides by 5.

$$5x = \$50{,}000.00 + y.$$

Replacing y with the value given above,

$$5x = \$50{,}000.00 + \$40{,}000.00 + \frac{x}{5}.$$

To eliminate the fraction, multiply both sides by 5.

$$25x = \$250{,}000.00 + \$200{,}000.00 + x,$$
$$24x = \$450{,}000.00.$$
$$x = \$18.750.00 \text{ the net worth of B.}$$

Similarly, we now solve for y, starting with the equation previously given.

$$y = \$40{,}000.00 + 1/5 \left(\$10{,}000.00 + \frac{y}{5}\right)$$

$$y = \$40{,}000.00 + \$2{,}000.00 + \frac{y}{25}, \text{ or } \$42{,}000.00 + \frac{y}{25},$$

$$25y = \$1{,}050{,}000.00 + y,$$
$$24y = \$1{,}050{,}000.00,$$
$$y = \$43{,}750.00 \text{ net worth of C.}$$

Having thus obtained the net worth of each company, the amount of each stock owned by the other is at once obtained by dividing our two results by 5, as 1/5 was the ratio in each case. The only remaining unknown quanti-

ties to be determined are the deficit and the surplus on the B and C balance-sheets, respectively. These amounts are obtained in the ordinary way by simple arithmetic—subtraction and addition.

We used the net assets in our computations, but in setting up the following balance-sheets we make use of the original amounts for the assets and for the liabilities:

B

Assets	$50,000.00	Liabilities		$40,000.00
C stock (1/5 of $43,750)	8,750.00	Capital stock	$25,000.00	
		Deficit	6,250.00	18,750.00
	$58,750.00			$58,750.00

C

Assets	$50,000.00	Liabilities	$10,000.00
B stock (1/5 of $18,750)	3,750.00	Capital stock	25,000.00
		Surplus	18,750.00
	$53,750.00		$53,750.00

It is necessary also to revise the balance-sheet of A by substituting the book values of the B and C stocks held by A in place of the par values given. Changing these values will also change the surplus of A, thus:

Changing	$15,000.00
to	11,250.00
is a loss of	$3,750.00
Changing	15,000.00
to	26,250.00
is a gain of	11,250.00

A net gain of $7,500.00, making A's surplus $12,500.00. A's balance-sheet will then be:

A

Assets	$100,000.00	Liabilities	$50,000.00
B stock	11,250.00	Capital stock	75,000.00
C "	26,250.00	Surplus	12,500.00
	$137,500.00		$137,500.00

Outside parties hold 1/5 of the stocks of B and C.

The working papers leading to the consolidated balance-sheet are too simple to need detailing. Of course, the figures for the deficit of B and the surplus of C are eliminated, except as reflected in the minority holdings.

Consolidated Balance-Sheet—A, B and C

Assets	$200,000.00	Liabilities	$100,000.00
		Capital stock............	75,000.00
		Minority stockholders, B.	3,750.00
		" " C.	8,750.00
		Surplus	12,500.00
	$200,000.00		$200,000.00

Amortizing Discount on Instalment Contracts

Editor, Students' Department:

Sir: Could you outline briefly for me the proper method of setting up the income from real estate mortgages, on the books of an investment company, where the mortgage is bought at a discount—without any computation on an actuarial basis for determining the effective rate of income—and the interest is paid and principal amortized by regular monthly payments, part of which apply to interest and part to principal, the charge for interest being reckoned on the half-yearly basis and on the amount unamortized as of the first of that period?

I understand the actuarial principal of amortizing bond premium or accumulating bond discount on the proper income basis, but it seems that the *Accountancy of Investment* does not treat a case of this kind.

Appreciating any favor accorded me in this matter, I remain

Yours truly,

Akron, Ohio. F. B. K.

When a debt is payable in equal periodical instalments which are applied first to the payment of accrued interest and the balance to the reduction of the principal, the principal of the debt is the present value of the annuity of periodical payments. If a mortgage note, payable in this manner, is bought at a discount, the purchaser's income consists of the interest on the gradually diminishing balance of the debt and also the discount. This discount should not be credited to income in equal instalments during the life of the loan if a scientific statement of the income is desired. The income should be proportionate to the investment; since the investment is continually diminishing, the interest will be larger during the early periods of the loan than during the later periods, and the discount credited to income during the early periods should also be larger than during the later periods.

Since the note is purchased at a discount, the effective rate earned by the purchaser is greater than the nominal rate carried by the paper. Theoretically, the correct method of amortizing the discount is to ascertain the effective rate, multiply the principal at the beginning of each period by this rate to determine the effective income, and deduct therefrom the interest to determine the discount. But practically this procedure is very difficult, because there is no formula by which an exact computation of the effective rate can be made. The best that can be done is to approximate the rate.

To illustrate the procedure, assume that a note of $1,000.00, bearing 5 per cent interest, is to be paid off in monthly instalments of $25.00. The interest is to be computed each six months on the principal unpaid at the beginning of the six months' period. This interest is deducted from the six

monthly payments totaling $150.00, and the balance is applied as a reduction of the principal.

The first necessary step is to determine the length of time which will be required to pay off the debt. Since the interest is computed semi-annually, the six monthly payments of $25.00 each may be treated as semi-annual payments of $150.00; and the problem is to determine how many six-months' periods will be required to pay the debt. This unknown time, which may be expressed by the symbol n, may be very closely approximated in two ways: by logarithms or by interpolation of annuity tables. The computation by logarithms is as follows:

$1,000.00 is the present value at 2½ per cent per period of an annuity of $150 each six months for n periods.

Then $1{,}000 \div 150 = 6.667$, the present value of an annuity of 1 each six months for n periods.

Now the present value of an annuity of 1 is computed by dividing the compound discount by the interest rate. The compound discount is computed by finding the present value of 1 and deducting it from 1. The present value of 1 is computed by finding the amount of 1 at compound interest and dividing 1 by the amount of 1. Where the rate is 2½ per cent per period and there are n periods.

The amount of 1 is represented by 1.025^n.

The present value of 1 is represented by $\frac{1}{1.025^n}$

The compound discount is represented by $1 - \frac{1}{1.025^n}$

And the present value of an annuity by $\frac{1 - \frac{1}{1.025^n}}{.025}$

Therefore $\frac{1 - \frac{1}{1.025^n}}{.025} = 6.667$

The value of 1.025^n is ascertained thus:

Multiply both terms of the equation by .025:

$$1 - \frac{1}{1.025^n} = .166675$$

Subtract 1 from both sides

$$-\frac{1}{1.025^n} = .166675 - 1$$

Change signs:

$$\frac{1}{1.025^n} = 1 - .166675$$

Collect terms:

$$\frac{1}{1.025^n} = .833325$$

Multiply both sides of the equation by $\frac{1.025^n}{.833325}$

$$\frac{1}{1.025^n} \times \frac{1.025^n}{.833325} = \frac{.833325}{1} \times \frac{1.025^n}{.833325}$$

This does not affect the value of the equation, because when equals are multiplied by equals the results are equal.

By cancellation:

$$\frac{1}{.833325} = \frac{1.025^n}{1}, \text{ and } 1.20 = 1.025^n$$

Then log. 1.20 = log. 1.025 × log. n
And log. 1.20 ÷ log. 1.025 = log n
log. 1.20 = .079181
log. 1.025 = .010724

Then .079181 ÷ .010724 = 7.384, the number of six months' periods.

The fraction .384 of six months is equivalent to 2.304 months. This means that after the last full monthly payment of $25.00 has been paid a balance of approximately .304 of $25, or $7.60, will remain. This is a very close approximation of the facts, as shown by the following schedule of payments and amortization:

Principal		$1,000.00
First six months:		
Payments totaling	$150.00	
Interest 2½% on $1,000.00	25.00	125.00
Balance		$875.00
Second six months:—		
Payments totaling	$150.00	
Interest 2½% on $875.00	21.88	128.12
Balance		$746.88
Third six months:		
Payments totaling	$150.00	
Interest 2½% on $746.88	18.67	131.33
Balance		$615.55
Fourth six months:		
Payments totaling	$150.00	
Interest 2½% on $615.56	15.39	134.61
Balance		$480.94

Fifth six months:		
Payments totaling	$150.00	
Interest 2½% on $480.94	12.02	137.98
Balance		$342.96
Sixth six months:		
Payments totaling	$150.00	
Interest at 2½% on $342.96	8.57	141.43
Balance		$201.53
Seventh six months:		
Payments totaling	$150.00	
Interest 2½% on $201.53	5.04	144.96
Balance		$56.57

Eighth period:			
First month	$25.00		
Second month	25.00	$50.00	
Less two months' interest on $56.57		.47	49.53
Balance			$7.04

This makes a total payment of $32.04 at the end of the second month. The approximation of $7.60 shows an error of $.56, on the assumption that more than $25.00 is paid at the end of the second month in order to complete the settlement. If the final payment is made at the end of the third month the settlement will be:

Balance (as above)	$56.57
Add three months' interest	.71
Total	$57.28
Deduct two monthly payments	50.00
Balance	$7.28

This shows a discrepancy of only $.32.

This indicates that the approximation of the time by logarithms is close enough for practical purposes. The approximation by annuity tables follows:

The present value of an annuity of 1 at 2½% for 8 periods is	$7.1701
The present value of an annuity of 1 at 2½% for 7 periods is	6.3493
An increase of 1 period causes an increase in the present value of	$ .8208

Present value of annuity of 1 at 2½% for n periods................	$6.6667
Present value of annuity of 1 at 2½ for 7 periods................	6.3493
Difference caused by increase of fraction of period................	$ .3174

.3174 ÷ .8208 = .386 fraction of period
.386 of six months = 2.316

This would indicate a final payment of $25.00 × .316, or $7.90, a result slightly less accurate than the one obtained by logarithms. However, in the computations which follow, 7.386 periods will be used as the estimated time, because the approximation by annuity tables is more easily accomplished than the one by logarithms.

The next step is an approximation of the effective interest rate, and this also is done by interpolation of annuity tables. These tables show present values for full periods only, and interpolation is first made to estimate present values for 7.386 periods at various rates between which the unknown rate is supposed to lie.

Since $900.00 is paid for the note, $900.00 is the present value of an annuity of $150.00 per period for 7.386 periods at an unknown rate, and $900 ÷ 150, or $6.00, is the present value of an annuity of $1.00 for 7.386 periods at the unknown rate.

Present Values of Annuities

	4%	5%	6%
For 8 periods........................	$6.7327449	$6.4632128	$6.2097938
For 7 periods........................	6.0020547	5.7863734	5.5823814
Differences for 1 period............	$ .7306902	$ .6768394	$ .6274124
Multiply by........................	.386	.386	.386
Differences for .386 of a period (approximately)	$ .2820464	$ .2612598	$ .2421811
Value for 7 periods..................	6.0020547	5.7863734	5.5823814
Value for 7.386 periods (approx.)...	$6.2841011	$6.0476332	$5.8245625

The $6.0000 value at the unknown rate lies between the 5% and 6% values. Therefore

Value at 5%..............................	$6.0476332
Value at 6%..............................	5.8245625
Difference	$ .2230707
Value at 5%..............................	$6.0476332
Value at unknown rate......................	6.0000000
Difference	$ .0476332

If a decrease of .2230707 in the present value is caused by a 1% increase in the rate, a decrease of .0476332 in the present value is caused by an increase of approximately 476332/2230707 of 1% in the rate, or .2135%. Therefore, the effective rate is approximately 5.2135% per period of six months, although the nominal rate is only 2½% per period.

Schedule of Amortization at Estimated Effective Rate

Investment		$900.00
First six months:		
Payments totaling	$150.00	
Interest 5.2135% of $900.00	46.92	103.08
Balance		$796.92
Second six months:		
Payments totaling	$150.00	
Interest 5.2135% of $796.92	41.55	108.45
Balance		$688.47
Third six months:		
Payments totaling	$150.00	
Interest 5.2135% of $688.47	35.89	114.11
Balance		$574.36
Fourth six months:		
Payments totaling	$150.00	
Interest 5.2135% of $574.36	29.94	120.06
Balance		$454.30
Fifth six months:		
Payments totaling	$150.00	
Interest 5.2135% of $454.30	23.69	126.31
Balance		$327.99
Sixth six months:		
Payments totaling	$150.00	
Interest 5.2135% of $327.99	17.10	132.90
Balance		$195.09
Seventh six months:		
Payments totaling	$150.00	
Interest 5.2135% of $195.09	10.37	139.63
Balance		$55.46

If the debt is fully paid at the end of the second month, the credit to interest at the effective rate will be two months' interest, or 1/3 of 5.2135% of $55.46, or $.96, making the final payment:

Balance (as above)	$55.46
Add two months' interest	.96
Total	$56.42
Less payment end of first month of 8th period	25.00
Balance	$31.42

However, the payment actually made at this date in final settlement is $32.04. This is a discrepancy of $.62, which is adjusted by crediting income with $.96 plus $.62, or $1.58 at the time of final settlement. The amortization table is thus completed.

Balance (as above)	$55.46
End of first month—payment	25.00
Balance	$30.46
Add income credit to adjust	1.58
Balance paid in cash end of second month	$32.04

The periodical credits to income, shown by the foregoing schedule, are represented in part by cash collections and in part by amortization of discount. What entries should be made? Since the payments are made monthly, entries would probably be made debiting cash and crediting the notes receivable or mortgage account for the payments. Every six months adjusting entries would be made for the interest and discount.

Tabulation of Interest Entries

	Monthly entries		*Semi-an'al ent.*		
	Dr. Cash	*Cr, Mtge. rec.*	*Dr. Mtge. rec.*	*Cr. Interest*	*Balance*
Original investment	......	......	......	......	$900.00
First six months:					
Payments totaling	$150.00	$150.00	......	......	$750.00
Inc. at effective rate	......	......	46.92	46.92	796.92
Second six months:					
Payments	150.00	150.00	......	......	646.92
Inc. at effective rate	......	......	41.55	41.55	688.47
Third six months:					
Payments	150.00	150.00	......	......	538.47
Inc. at effective rate	......	......	35.89	35.89	574.36
Fourth six months:					
Payments	150.00	150.00	......	......	424.36
Inc. at effective rate	......	......	29.94	29.94	454.30
Fifth six months:					
Payments	150.00	150.00	......	......	304.30
Inc. at effective rate	......	......	23.69	23.69	327.99

	Monthly entries		Semi-an'al ent.		
	Dr. *Cash*	*Cr.* *Mtge. rec.*	*Dr.* *Mtge. rec.*	*Cr.* *Interest*	*Balance*
Sixth six months:					
Payments	$150.00	$150.00	......	.....	$177.00
Inc. at effective rate..	......	......	17.10	17.10	195.09
Seventh six months:					
Payments	150.00	150.00	......	......	45.09
Inc. at effective rate..	......	......	10.37	10.37	55.46
Eighth period:					
First month payment..	25.00	25.00	......	......	30.46
Second month interest.	......	......	1.58	1.58	32.04
Payment	32.04	32.04	......	......	0

This method of amortizing the discount involves a great deal of work and the results are only approximations. Moreover, you state in your letter that you do not want to make the computation on an actuarial basis. However, the preceding has been given to show how nearly the following easy procedure will conform in its results to a fair approximation by the scientific method.

The following method is an adaptation of the "bonds outstanding" method of amortizing discount or premium on serial bonds, described by A. Lowes Dickinson on page 138 of *Accounting Practice and Procedure,* and the "sum of years digits" method of computing depreciation.

Make a table listing the interest periods during which the loan will continue. For the sake of simplicity consider the last fractional period as a whole period. In other words, in the illustration 7.386 periods would be considered 8 periods. List the numbers of the periods in inverse order, beginning with the largest and ending with 1. Find the sum of these numbers. Compute the decimal fraction representing the ratio of each number to the total. For the purposes of the illustration the table would be:

Periods	*Decimal*
8	.22222
7	.19444
6	.16667
5	.13888
4	.11111
3	.08333
2	.05555
1	.02777
36	.99997

The decimal .22222 is equivalent to 8/36, and the other decimals are similarly computed. These decimals govern the discount to be amortized, the largest decimal being used the first period. The credits to income each six months are the sum of the interest computed at the nominal rate and

the discount. The following table shows the periodical amounts of interest and discount and the totals thereof, which are compared with the totals by the actuarial method:

Table of Credits to Income

	Bonds outstanding method			*Actuarial*
	Interest	*Discount*	*Total*	*method*
First 6 months	25.00	22.22	47.22	46.92
Second 6 months	21.88	19.44	41.32	41.55
Third 6 months	18.67	16.67	35.34	35.89
Fourth 6 months	15.39	13.89	29.28	29.94
Fifth 6 months	12.02	11.11	23.13	23.69
Sixth 6 months	8.57	8.33	16.90	17.10
Seventh 6 months	5.04	5.56	10.60	10.37
Eighth period, 2 months	.47	2.78	3.25	1.58
	107.04	100.00	207.04	207.04

A comparison of the figures in the last two columns shows that the results by this method are exact enough for most purposes. If a great many such mortgages are purchased it would be desirable to construct tables of decimals which could be used for loans extending over the various customary numbers of periods.

Origin of Voucher-Cheque

We have been asked for information in regard to the origin of the voucher system and the voucher-cheque. We will be gratified by any light that can be thrown on this subject.

Arthur Wolff & Co. announce the removal of their offices to 522 Fifth avenue, New York.

Hart & Robinson announce the removal of their office to 18 East 125th street, New York.

Perley Morse & Co. announce the removal of their offices to 110 William street, New York.

P. Miles Taylor announces the opening of an office at 59 Wall street, New York.

New York State Society of Certified Public Accountants

At the annual meeting of the New York State Society of Certified Public Accountants, held May 10, 1920, the following were elected officers and directors for the ensuing year: President, J. S. M. Goodloe; first vice-president, Howard B. Cook; second vice-president, Homer S. Pace; secretary, James F. Farrell; treasurer, James F. Hughes; directors for two years, George L. Bergen, Patrick W. R. Glover, Frederick H. Hurdman, Edward L. Suffern, Norman E. Webster and John R. Wildman.

California State Society of Certified Public Accountants

LOS ANGELES CHAPTER

At the annual meeting of the Los Angeles chapter of the California State Society of Certified Public Accountants, the following officers and directors were elected for the ensuing year: President, A. M. Loomis; vice-president, H. Worthington; secretary-treasurer, E. H. Spencer; directors, Reynold E. Blight and H. Ivor Thomas.

Certified Public Accountants of Massachusetts

The Certified Public Accountants of Massachusetts, incorporated, at the annual meeting held May 12th in Boston, elected the following officers: President, George Lyall; vice-president, Hollis H. Sawyer; treasurer, Gerald Wyman; secretary, Frederick Bond Cherrington; executive committee, George Lyall, Hollis H. Sawyer, Frederick Bond Cherrington, Robert Douglas, Stanley G. H. Fitch and Daniel B. Lewis.

Patterson, Teele & Dennis announce that Edward H. Moeran, member of the American Institute of Accountants, and David Leslie Milne, Associate of the Institute of Chartered Accountants in England and Wales, have been admitted as partners in the firm.

George B. Buist and William H. Kerman, associates of the American Institute of Accountants, announce the formation of a partnership under the firm name of George B. Buist & Co., with offices at Fort Wayne, Indiana.

R. M. Bateman, member of the American Institute of Accountants, announces the opening of offices at No. 4 Arcade building, Norfolk, Virginia, under the firm name of R. M. Bateman & Co.

Whitfield, Whitcomb & Co. announce that W. J. Piepenbrink has been admitted to the firm, and will have charge of the branch office in Alaska building, Seattle, Washington.

Main & Co. announce that William R. Main, member of the American Institute of Accountants, is now associated with them, with headquarters at Harrisburg, Pennsylvania.

Walter K. Mitchell, member of the American Institute of Accountants, announces the opening of offices at 611 H. W. Hellman building, Los Angeles, California.

J. Frederick E. Wood, member of the American Institute of Accountants, announces the removal of his office from 95 William street to 110 William street, New York.

William G. Adkins, member of the American Institute of Accountants, announces the removal of his Chicago office to 30 North Dearborn street, Chicago.

J. D. Cohen, member of the American Institute of Accountants, announces the removal of his offices from 67 Wall street to 87 Nassau street, New York.

Moyer & Briggs, members of the American Institute of Accountants, announce the opening of a branch office at 1737 Broadway, New York.

Coughlan & Coughlan, members of the American Institute of Accountants, announce the removal of their New York office to 41 Union Square.

Alfred J. Stern, member of the American Institute of Accountants, announces the removal of his office to 522 Fifth avenue, New York.

Isidor Ginsberg, member of the American Institute of Accountants, announces the removal of his office to 41 Union Square, New York.

Elihu S. Colbert announces the opening of an office in First National Bank building, Birmingham, Alabama.

Touche, Niven & Co. announce the removal of their New York office from 30 Broad street to 42 Broadway.

Louis E. Smith announces the removal of his office to 1209 American Bank building, Seattle, Washington.

Neville, McIver, Barnes & Co. announce the removal of their New York office to 10 East Forty-third street.

Edward R. Burt & Co. announce the opening of offices in the Conestoga building, Pittsburgh, Pennsylvania.

Black & Co. announce the opening of a branch office at 6 Hamilton row, Hagerstown, Maryland.